

**Innovative FSL Course Design at the
Senior Secondary Level: Final Report**

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Contents

1. Overview of the Project
 - 1.1 Background and objectives
 - 1.2 Data collection
 - 1.2.1 Phase one of the project
 - 1.2.2 Phase two of the project
2. Synopsis of the Course
 - 2.1 Content
 - 2.2 Processes
3. Educational Issues
 - 3.1 Learners' participation in curriculum decision-making
 - 3.2 Teachers' planning
 - 3.3 Constraints on the computer network
 - 3.4 Content teaching and learning
 - 3.4.1 Interpretive orientation
 - 3.4.2 Learners' perceptions
 - 3.5 Language teaching and learning
 - 3.5.1 Experiential teaching and learning
 - 3.5.2 Analytical teaching and learning
 - 3.5.3 Students' perceptions
 - 3.6 Teaching and learning of writing
 - 3.6.1 Writing as a means to an end
 - 3.6.2 Limited focus on writing processes
 - 3.6.3 Emphasis on language use in written product
 - 3.7 Students' revisions to written texts
 - 3.7.1 Types of revisions
4. Summary
 - 4.1 Implications

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1. Overview of the Project

1.1 Background and objectives

This project was a collaborative endeavour between the OISE Modern Language Centre and the University of Toronto Schools (UTS). The project was conceived as a result of a problematic situation which had emerged at UTS in recent years involving students who had completed their Ontario Academic Course in French by grade 10 as part of an accelerated program of studies at UTS. When these students later entered senior grades in the same school, they wished to maintain and further improve their French language skills, but UTS did not offer a French course or a program of study which could meet the needs of this group. The number of UTS students who faced this situation had increased in recent years, prompting UTS administration to seek ways of accommodating their needs.

Meetings between several OISE Modern Language Centre personnel and UTS administration were initiated by UTS in April 1987. These sessions focused on defining the context, considering the school's previous attempts to deal with the situation, exploring alternatives and specifying the needs and interests of the learners. Although they are highly motivated and fairly advanced in their French studies, these students appear to demonstrate weaknesses in their use of the second language, especially in the productive skills. Similar outcomes have been reported for other French as a second language programs, including immersion (e.g. Swain and Lapkin 1986).

Theoretical and empirical research in second language learning as well as a long series of immersion evaluations carried out in the OISE Modern Language Centre (e.g.

Hart, Lapkin and Swain, in press) have led to the conclusion that unless we can innovate in the classroom to provide more opportunities for extended French speaking and writing interactions with peers and peer native speakers of the target language, second language (L2) development may reach a plateau and stagnate (see Swain and Lapkin 1986, Swain 1985, Swain and Wong Fillmore 1984).

The UTS situation thus provided an opportunity to innovate in a second language classroom in such ways and to assess the impact of the kind of interactions which have been advocated. The project rationale emphasized the integration and operationalization of three significant research strands which had previously been relatively isolated from each other: a) communicative language teaching; b) second language writing theory and instruction; and c) computer networking for second language learning.

Communicative language teaching has been shown to foster the development of learners' "communicative" competence as opposed to their purely "linguistic" competence which traditional approaches to second language teaching tend to emphasize. To date, communicative language teaching has been mainly associated with the development of speaking skills. The operationalization of second language writing theory - which views writing as a powerful mode of learning, focusing on the development of cognitive skills - constitutes a viable alternative to traditional approaches which advocate prescriptive, formulaic approaches to writing instruction and often view writing as grammatical proficiency. The technological capabilities of computer networks have the potential of establishing a motivating, authentic, context for interaction with speakers of the target language. The application of this technology to second language learning in the Canadian context is still fairly recent. Few computer networks have been introduced in second language classrooms and few efforts have been

made to document and assess these situations thoroughly. (See Appendix A for a detailed discussion of the theoretical principles underlying the instructional approach taken in this project).

The objectives for this collaborative project were thus to integrate and operationalize these three research strands for the purpose of a) designing a course at the senior secondary level which meets the specific needs of FSL learners enrolled at the University of Toronto Schools, b) implementing the course in the UTS context, and c) documenting its effectiveness with a view to exploring implications for FSL instruction. Characteristics of the course proposed for implementation at UTS were summarized in a report to UTS on the pilot phase (see Appendix B) as follows:

This course will be an Ontario Academic Course in Contemporary Studies. It will concentrate specifically on current political and social issues in Canada. Instruction will be conducted through the medium of French. The course will be designed to further develop the students' grammatical, discourse, sociolinguistic and strategic competence in all academic FSL skills. Special emphasis will be placed on the development of academic writing expertise in FSL, though listening, speaking and reading will be integrated within the framework of pedagogic activities. Learning of language and subject matter will be contextualized in interactional and collaborative projects with francophone peers, using the medium of computer networking.

In their response to the detailed proposal in the OISE final report presented to UTS in November 87 UTS agreed to implement the proposed course from September 88 to January 89, but the course was to be offered as a UTS credit.¹

1.2 Data collection

1.2.1 Phase one of the project

Project implementation comprised two phases. The first phase was a feasibility

study concentrating on the operational aspects of linking UTS with a similar Francophone school in Montreal via a computer network. It involved selecting a Montreal school and a group of learners to be "twinned" with the UTS group, and establishing and piloting the computer network. Piloting of the network took place in the context of a preliminary course applying the pedagogical principles to be implemented in the final phase of the project. This course, taught by R. Sanaoui to a volunteer group of UTS students after school hours in January-May 1988, included a set of pilot interactions between this group and a group of English as a second language (ESL) peers and their teacher in the Collège Mont-Saint-Louis, the Montreal school selected for participation in the project. Preliminary interview data were also gathered, which documented the perspectives of these participants on the (potential) value of computer networking with users of the target language. This preliminary study further guided curriculum planning for final implementation of the course.

The configuration of the network which was established, piloting of the computer network and evaluation of the experience by the participants are reported in Appendix A.

1.2.2 Phase two of the project

In the second phase of the project, the course was implemented by the participating teachers in Collège Mont-Saint-Louis (CMSL) and UTS.² The researchers acted as resource people, providing technical and pedagogical support. Course implementation was documented by the researchers through classroom observations (for approximately five weeks of the four-month course), collection of UTS students' writing samples at the beginning and at the end of the course, records of all written communications between the two groups of students on the conferencing system "Participate" or "parti", on-going interviews and reports between individual students and

one of the researchers in private conferences on "parti" called "Journal personnel", records of all interactions between the two teachers in "Salle des professeurs" (a conference on "parti" reserved for this purpose), records of daily and weekly teachers' reports to and dialogues with the researchers on "parti", as well as final interviews with all UTS participants and questionnaires completed by the CMSL group.

2. Synopsis of the Course

2.1 Content

The course was structured around five main thematic units and conferences on the computer network. The introductory unit and core conference which were entitled "Faisons connaissance" served two purposes: a) providing a context for all participating students to practice using the networking facilities and conferencing system "parti", after they took part in a hands-on workshop³; b) allowing all participants in the UTS-CMSL network to meet and get acquainted with each other. Students composed, exchanged and discussed autobiographical materials, details about their personalities, interests, aspirations, stories about previous language learning experiences, descriptions of their programs of study, schools, cities and home environments. As part of this unit as well, the two groups arranged for some UTS students to be hosted by their CMSL peers in the context of a visit to McGill University (a field trip organized by UTS, independently of the course).

Three thematic units in the course focused on social, cultural and political topics. In the unit and conference entitled "Bilinguisme" participating students dealt with such issues as language policies in Quebec and Ontario, the effects of Bill 101, as well as relations between Anglophones and Francophones in Canada. Students occasionally digressed from such main issues to share views about unrelated current

events such as the use of illegal drugs in professional sports and the Ben Johnson affair. In the following unit and conference, "Identité canadienne", the two groups concentrated on defining their cultural identities as Torontonians/Montrealers, Ontarians/Québécois, and Canadians; they also covered the controversial issue of free trade and the federal elections which were taking place at the time. Considerations such as recent immigration policies in Canada, and cases of racism documented in the press were examined in the unit and conference called "Racisme". The course also included a conference with a literary theme, "Critiques", during which students exchanged references and detailed reviews of novels, plays and films on a variety of topics. The purpose of "Party's over", the final conference on "parti", was to give the participating students opportunities to take leave of each other at the end of the course.

2.2 Processes ✕

Within the framework of each unit in the course, the UTS group and the CMSL group engaged in second language reading, speaking and listening activities that a) focused on familiarizing the learners with the central theme and various perspectives on the issues; and b) were integrated with and aimed at supporting the composition of texts in the second language about those issues. Students engaged in pair, small group or whole group reading, speaking and listening activities. Writing was primarily an individual, ongoing process which took place partly in class (or in the computer lab) and partly at home. The specific stages in the writing process during which students used microcomputers varied from one student to another and from one thematic unit to another. Some students made handwritten notes and then completed the writing task on the microcomputer; other students composed initial drafts with pencil and paper and used the microcomputer to revise their texts; still others composed text longhand and

then wordprocessed their final texts. As the course proceeded, most students tended to use the microcomputers for revising texts.

After each consecutive draft of a piece of writing, students received feedback on their compositions. In the UTS group this feedback was provided primarily by the teacher as well as from classmates in group and/or pair discussions of their writing. All final compositions were then transferred to the thematic conference on "parti" and shared with all participants in the UTS-CMSL network, providing the basis for further asynchronous (delayed) interactions about the same issues. Network communications were printed out and distributed to all students as the conference proceeded. Four thematic units also featured real time, on line interactions between the two groups of participants. These typically involved exchanges of brief questions and answers about the issues at hand or other unrelated topics.

3. Educational Issues

3.1 Learners' participation in curriculum decision-making

At the beginning of the course the teachers gave participating students opportunities to react to the selection of themes featured in a course outline. At this time, students only suggested and agreed upon minor changes. However, as the course progressed, both groups of students became eager to make further decisions about themes to be studied and, at times, experienced difficulties agreeing on specific topics and subtopics. Negotiations of substantive content occurred at various points in the course. Most often, teachers acted as intermediaries between groups; they reported to each other on their students' preferences and finalized compromises. In retrospect, students from both schools reported that they wished they had been more active in the selection of the themes at the beginning of the course. Some students wished they had

been able to cover other topics as well. "Parti" offered the possibility of organizing small group conferences for individuals sharing interests other than the main ones covered in the course, but this feature of the conferencing system was not exploited in the implementation of the course.

3.2 Teachers' planning

As the content of the course was being revised progressively with increasing participation from the students, there seemed to be a shift in the nature of the teachers' planning over the period of the course. While in the first part of the course the teachers appeared to concentrate on the structure and events of an entire thematic unit, as the course proceeded, their planning tended to be less global; they appeared to concern themselves primarily with planning activities from one week to the next and one day to the next. Their communications in "Salle des professeurs" (a conference on the UTS-CMSL network reserved for teachers' interactions) concentrated on informing each other about stages which students had reached in their work and scheduling the following activity. The substantive content and format of activities were a primary concern for the teachers while objectives for students' learning in specific activities or units were discussed to a much lesser extent. Time and timelines for the treatment of themes were a constant concern both for the teachers and students. Increasingly, teachers made resource materials available to the students for the study of content rather than encouraging learners to gather their own resources.

3.3 Constraints on the computer network

Students mastered the use of networking facilities and the conferencing system "parti" within a short period of time early in the course. They found the conferencing system easy to learn and use, as illustrated in the following quote from a UTS student.

"J'ai très bien aimé "parti" et je n'ai pas eu de problèmes avec ce système. C'était facile à apprendre et on avait aussi beaucoup de feuilles pour nous aider."

However, at several stages in the course, networking activities were affected by delays in communications. This problem was due to contextual differences in the situations of the two groups as well as technological constraints.

The UTS group comprised a small group of students with a ratio of one microcomputer per student. The group had access to two interactive work stations and access to the computer laboratory 3 (sometimes 4) times a week. The UTS teacher also had access to an interactive work station at home which she used extensively to receive and print out incoming messages, as well as to communicate with the CMSL teacher. In contrast, the CMSL group consisted of 36 students with a ratio of 2 to 3 individuals per microcomputer. Students had fewer contact hours with their teacher than the Toronto group. The CMSL group had access to only one interactive work station. The demands made on the CMSL teacher to manage a large group of students, who were often divided into separate groups performing different kinds of activities at different times and in different rooms, as well as the additional constraint for the teacher and the students in CMSL to cover other components of the course which were separate from the "twinning" with UTS, made for a highly complex situation.

Another constraint on networking activities for both groups was the poor condition of some of the microcomputers in their respective schools. This was often a source of frustration for both teachers and students:

"Les ordinateurs à notre école sont frustrants. Ce sont des anciens ordinateurs, des C.64 qui n'ont pas rien et les keys ne marchent pas. Il faut les taper comme on veut les murder them". (UTS student)

On line, real time interactions between the two groups were also constrained by the fact that "parti" restricts the length of messages to one or two lines at a time. In a recent article on distance education for adults, Davie (1988) reports that extended synchronous exchanges are needed for the most effective collaborative writing.

3.4 Content teaching and learning

3.4.1 Interpretive orientation

This course adopted an interpretive orientation to content teaching (Barnes 1976, see also Wells 1982 and Cummins 1984). The teachers did not teach content in explicit ways. Participating students were provided with reading and other resource materials - in both English and French, though teachers and students favoured materials in the target language - which presented them with a range of information, facts and perspectives about the issues with which they were concerned themselves. Learners were also provided with situations where they could learn about relevant issues and problems through interactions with these materials as well as extensive interactions (in the target language) with their classmates and peers on the network. Students assumed responsibility for their own learning while the teacher acted as a supervisor who specified timelines, monitored the students' pace and productivity, assisted learners in selecting and narrowing specific issues, and facilitated whole group, oral discussions around the themes and conference proceedings.

3.4.2 Learners' perceptions

Reports from participating students highlighted three positive effects of this

orientation to teaching and learning. First, both groups emphasized the extent to which this instructional approach had enhanced self-expression and collaboration within their group. These views are expressed in the following quotations from a UTS and a CMSL student:

"Une chose que j'ai le plus aimé est mon groupe. Maintenant on est vraiment unies parce qu'on a beaucoup travaillé ensemble. Même si nos essais étaient séparés et nos idées étaient différents, on était comme une équipe." (UTS student)

"I hope this course is here to stay because it's interesting. The atmosphere in such a group is very good and we put our differences aside to concentrate on communication, which is along with (self) expression a key word to what this course is all about." (CMSL student)

Second, students found the environment conducive to learning about issues covered in the course:

"Avant le cours, j'ai pas pensé beaucoup à ces problèmes. I am now more aware of those issues." (UTS student)

"The course made me aware of my opinions and really think about issues I didn't take time to look into." (CMSL student)

"Je sais beaucoup plus sur la loi 101 et j'ai appris des choses sur les autres sujets aussi." (UTS student)

"There was a big improvement in my understanding of the issues in the course." (CMSL student)

Third, students reported that the cultural dimension of the issues included in the course and interactions with native speakers about those issues on the computer network helped them gain insights into the L2 culture, although culture had not been an explicit focus of teaching.

"I think the course met the objective because it was to learn something about the way the English-speaking community lives and what they think and now I know a bit more what they think over there." (CMSL student)

"The course helped me a great deal because I was not really aware of the English culture." (CMSL student)

"C'était intéressant de voir leurs réactions, ça m'a donné plus d'insight dans la tête des québécois même si on a pas vraiment discuté la culture québécoise." (UTS student)

"What I liked most was communicating with Anglophones and seeing important issues from a point of view that we were always told was 'bad'." (CMSL student)

"I liked being able to know other people and to know what some Ontarians our age thought about certain issues." (CMSL student)

"I tend to try to understand them (Anglophones) more than before." (CMSL student)

"I learned just the thing I wanted: to know the anglophone point of view on different subjects." (CMSL student)

"Avant je pensais que tous les québécois ont pensé beaucoup à des choses comme la loi 101 parce qu'on lit ça tout le temps dans les journaux mais on a reçu leurs messages et j'étais souvent surprise. Maintenant, je crois qu'ils sont les mêmes personnes que nous. Ils sont des teenagers dans une grosse ville et ils sont presque les mêmes personnes." (UTS student)

"The written interactions with the UTS group was a great experience. Of course, our group was more crowded than theirs so it was hard to really get to know them. But all in all writing to Toronto students about subjects that really matter to teenagers like us was an experience I'll never forget." (CMSL student)

Students who reported having gained little from the course at the cultural level indicated that, in comparison with their peers, they had had more experience in living in the L2 culture. Students who felt they had learned little subject matter from the course suggested their own lack of interest and involvement in some of the topics in the course were contributing factors. One primary concern of UTS students, which is supported by data from other sources, was that objectives for learning outcomes (both content and language) were not made sufficiently explicit.

3.5 The teaching and learning of language

The approach to second language teaching was a composite of an experiential and an analytic approach (see Stern 1978). A case study of the UTS context revealed that the opportunities for students to experience the second language largely predominated over pedagogical activities focusing on language study and analysis. This shift in balance toward experiential rather than analytical teaching was consistent with the course objectives envisaged by the investigators.

3.5.1 Experiential teaching and learning

In the largest proportion of the course, the characteristic features of teaching and learning were clearly in line with theoretical principles of an experiential orientation:

- Pedagogical activities were based on a substantive theme (as documented in the previous section of this report). Listening, speaking, reading and large parts of second language writing activities focused primarily on content of communication.
- Students engaged in purposeful activities in preparing for and participating in networking activities within the framework of a thematic unit.
- Course activities provided for extensive input in the second language and generated extensive output in the second language by the learners. The language used by participants in the course and pedagogical materials had the characteristics of "real" language. It was used in a variety of situations to realize various functions.

- Communication of meaning and fluency prevailed over error avoidance and accuracy in speaking and some components of writing activities.
- There was diversity of social interactions (student/classmate(s), student/peer writer(s) of the target language, student/teacher, student/teacher, student/teacher/classmates.⁴

3.5.2 Analytical teaching and learning

Pedagogical activities which involved students in paying attention to and analysing form(s) of language were carried out in two contexts with the UTS group. The first context was that of a traditional, teacher-directed lesson on specific language features. There were two instances of this sort, one relating to the formation of the subjunctive, another relating to lexical variation in formal and informal registers.

The second context for language analysis was the regular face to face meetings in which the teacher provided individual students with feedback on drafts of their written texts. (This particular context will be discussed further in the following section of the report which examines the teaching and learning of writing).

The teacher-directed lessons and student-teacher meetings described here were clearly defined situations in which language features were the focus of sustained attention both on the part of the teacher and students. Throughout the course issues regarding formal aspects of language surfaced quite frequently. These typically related to lexical and grammatical aspects. For example, students often asked the teacher for a lexical item they did not know. In response, the teacher would ask for the context in which the student wished to use the word and then provide the item requested. Often

also, the teacher went around the computer laboratory as students worked on their texts. In passing, she would read sections of texts and correct grammatical or lexical errors. Both kinds of situations offered the potential for individualized or group discussions on language forms and relations between form and meaning, but these cases did not appear to be dealt with in a systematic way and were exploited only to a limited extent.

It is also important to note here that there were no instances where the teachers promoted interactions between the students and their native speaker peers on the network about forms of the target language and relations between forms and meanings. Exchanges of this type were initiated by the students themselves on a few occasions, but they were not built into the course.

3.6 The teaching and learning of writing

CMSL and UTS students welcomed opportunities for extensive practice of the target language:

"Grammar and theory that we used to study in the years before was put to practical use and we developed our creativity by composing various papers, poems and reports instead of developing our memory by studying grammar rules." (CMSL student)

"J'ai écrit beaucoup plus dans ce cours que dans mes autres cours de français." (UTS student)

"On a beaucoup parlé des thèmes, de nos expériences et opinions, de ce qu'on allait écrire dans nos dissertations, des événements dans l'école. Mon français parlé améliorait et ça m'a encouragé de parler." (UTS student)

"The major point of this course is that we got to talk and write a lot more than the years before where we had to work with dumb books and always listening to the teacher or seeing him write tons and tons of theory that got me to sleep more than once." (CMSL student)

When UTS students were asked to further specify what aspects of the target language they perceived as having improved, most of them reported having expanded their vocabulary and improved some aspects of grammar. Some indicated they had become more aware of differences between spoken and written language, or that their spelling had improved. The teacher also made similar observations at the end of the course when she was asked to define her perceptions of the progress made by individual students in her group.

3.6 The teaching and learning of writing

Writing was an activity which occupied much of the students' time both in the UTS and CMSL context. A case study of the teaching and learning of writing in the UTS context revealed that: a) writing was a means to multiple ends; b) though writing practice was emphasized in the course, writing processes and the learning of writing were a minor focus of attention; and c) the teacher directed most attention to language use, especially grammar and vocabulary.

3.6.1 Writing as a means to an end

Writing played several roles in the UTS context:

- Writing was a means by which students brought together what they had learned or were in the process of learning about specific issues or subject matter.
- Writing was a means by which students demonstrated to the teacher and their peers what they had learned about the subject matter.

- Writing was the means of communication between the two groups⁵ and a means by which they generated more writing about issues covered in the course.
- Written communication on cultural issues with the L2 culture group was a means by which they experienced the L2 culture.
- The teaching of writing consisted mainly of providing opportunities for writing practice and teacher feedback on students' texts.

3.6.2 Limited focus on writing processes

Writing processes were the focus of the teacher's and students' attention only to the extent that specific routines for writing activities were established which reflected implicit assumptions about how students should write: gathering information for substantive content, selecting specific issues and planning for their treatment, composing consecutive drafts, obtaining feedback from the teacher, revising, editing and sharing/publishing texts in conferences on the UTS-CMSL network. The students enacted these processes throughout the course in their writing, with seemingly minimal attention to or discussion of the processes involved.

3.6.3 Emphasis on language use in written product

The teacher and the students were concerned with written product. Students were aware that "the teacher liked to see texts before they were transferred to conferences", even those which were not discussed in the formal face to face meetings with the teacher. When individual students met the teacher to discuss their texts, all students perceived the main purpose of these meetings as being error correction, with

specific reference to grammatical and lexical errors. The following accounts of what went on during those sessions (which are consistent with classroom observations) are taken from UTS students' reports:

"On s'assied à côté du professeur et le professeur dit 'mais tu sais bien que c'est pas ça qu'il fallait mettre' et après ça elle corrige les erreurs." (UTS student)

"Le professeur nous a corrigé individuellement et expliqué où était l'erreur." (UTS student)

"Quand on a fait un travail (texte), notre enseignante a corrigé nos fautes avec nous et elle nous a dit des mots, des expressions et des expressions de grammaire." (UTS student)

"La prof a lu et encerclé toutes les fautes et expliqué les fautes et a dit quelquefois on doit trouver un autre mot." (UTS student)

In summary, writing served different functions; students wrote extensively and according to specific routines established in the course; they received feedback from their teacher on their written products, primarily directed to grammatical and lexical aspects of their language use.

The teacher reported that she chose to provide individual feedback rather than concentrating on feedback from peers because the size of the group allowed her to give attention to individual students. She also reported emphasizing grammar because she perceived that students needed it. Students indicated that the teacher's assistance in correcting grammatical and lexical aspects of their written texts had been useful, but they did not find that they could write more easily by the end of the course. Qualitative analyses of students texts are examined in the next section.

3.7 Students' revisions to written texts

As part of this research, all participants in the UTS course were asked to write a composition in response to the following question: Pourquoi je suis (ou je ne suis pas) fier/fière d'être canadien/canadienne. The intended audience for this piece of writing was the research team; students were instructed that their piece should be about 200-250 words long, that is, about two pages of written text, double-spaced. They were given 30 minutes (one class period) to perform the task and allowed to use dictionaries. These writing samples were elicited and collected at the beginning of the course. At the end of the course, the compositions were returned to the students. Each individual received the same piece of writing she had composed upon enrolling in the course and was instructed to improve on this text. No time restrictions were placed on the performance of this task. Students could use dictionaries if they wished to do so.

Analyses of the revisions made by individual students to their pieces of writing revealed that:

- the number of revisions made by each student ranged from 2 to 20 (with most students making between 13 and 20 revisions).
- Most revisions related to grammatical and lexical aspects of language; a small number of revisions related to sociolinguistic aspects; with one exception, students made no revisions at the level of organization of their piece of writing or their substantive content.

- The revisions which students made contributed relatively little to the overall effectiveness of the (revised) pieces of writing, except in the case of the student who revised the organization of her composition.

An inventory of the types of revisions and illustrative examples from the texts are presented below. In each case, the bolded sentence, phrase or word represents the revision of the original text.

3.7.1 Types of revisions

Revisions related to lexis:

- replacing lexical items by other lexical items which make meaning more explicit:

Particulièrement dans les grandes villes comme Toronto, Montréal, et Vancouver, c'est très intéressant de vivre avec les personnes d'autres pays, d'apprendre des choses de leur langue, de leur culture, etc.
d'apprendre connaître leur langue, leur culture et leur vie quotidienne.
Comme dans le cas de l'Ethiopie
comme on a fait pour secourir les pauvres pendant la famine en Ethiopie.
- avoiding repetition of a lexical item in same paragraph:

example: replacing "personnes" by "gens".
- using a more sophisticated lexical term

Une autre chose que j'aime est que le Canada est neutre. On n'est pas dans beaucoup de guerres.
On ne participe pas souvent en guerre.
- correcting the form of a lexical item

Le reste du Canada est vraiment ennuyant.
ennuyeux
exposé
exposition

Grammatical revisions:

- a) correcting word order

beaucoup aussi
aussi beaucoup
 on peut être canadien aussi.
on peut aussi être canadien.

- b) prepositions:

on entend souvent les gens parlant de la culture et l'identité canadienne.
 addition of de et de l'identité canadienne
au même temps
en même temps

- c) verb forms/tenses/endings

je parlai au visiteur
 je parlais au visiteur
 le monde crois
 le monde croit
 on y a reste
 on y est reste

- d) grammatical changes marking a change in register from spoken to formal written language (a sociolinguistic adaptation):

c'est pas que je déteste le pays
ce n'est pas que je déteste
c'est pour ces raisons que je suis fière d'être canadienne.
ce sont les raisons pour lesquelles je suis fière d'être canadienne.
 même si j'ai pas raison
 même si je ne'ai pas raison

(Note: the forms used initially do not conform to the standards of written language. They do occur, however, with native speakers in conversational French.)

ça c'est du pessimisme et moi je suis optimiste
tandis que moi je suis optimiste
 Bien entendu que j'aime Toronto
c'est vrai que j'aime Toronto
 Oui on a les pauvres, qui dorment dans les rues
il y a les pauvres, qui
 Dans "Bravo Canada!" il était possible de voir ce qui séparé le Canada de tout le monde
 il était possible de voir ce qui nous sépare de tout le monde

FIGURE 1

Example of revision focusing on organization

"Bravo Canada!"

Cet été j'ai eu l'occasion de travailler au "Canadian National Exhibition" pendant le mois d'août. D'habitude les emplois au C.N.E. ne sont pas très agréables, mais moi j'ai trouvé une belle situation comme hôte au pavillon Canadien. Le thème du pavillon était ce qui nous fait fiers d'être Canadien(ne)s. Mes expériences au pavillon m'ont fait très fière d'être Canadienne aujourd'hui.

L'exposé s'appelait "Bravo Canada!" Comme hôte, je parlais aux visiteurs, la majorité qui venaient du Canada, mais aussi ceux des États-Unis et de l'Europe. Ils étaient, comme moi, surpris par les choses que le Canada et les Canadiens ont fait dans le monde entier, et chez eux.

Trop souvent, les Canadiens pensent qu'après des États-Unis le Canada ne vaut rien. Dans "Bravo Canada!" il était possible de voir ce qui sépare le Canada de tout le monde.

La terre Canadienne, et les lacs, sont unique. Les montagnes à l'ouest du pays sont magnifiques, et la Grande Prairie est importante dans la culture de blé.

Les citoyens du Canada ont fait une réputation dans toutes genres de travail -- les recherches scientifiques, l'aide internationale, les inventions.

Ce sont que quelques unes des raisons que j'aime habiter au Canada, et pourquoi je suis fière d'être Canadienne.

(Original)

"Bravo Canada!"

Cet été j'ai eu l'occasion de travailler au "Canadian National Exhibition" pendant le mois d'août. D'habitude les emplois au C.N.E. ne sont pas très agréables, mais j'ai réussi à trouver une belle situation comme hôte dans le pavillon canadien. L'idée du pavillon cette année était de montrer aux visiteurs les œuvres accomplies des Canadiens et Canadiennes, et de les rendre plus fiers et fières d'être Canadiens eux-mêmes. Certainement je suis beaucoup plus fière maintenant.

L'exposition s'appelait "Bravo Canada!" Comme hôte, je parlais aux visiteurs, et les expliquais comment marchaient les différentes sections. La majorité des gens venait du Canada, mais il y avait aussi quelques unes des États-Unis et de l'Europe. Elles étaient, comme moi, étonnées par les choses que le Canada et les Canadiens ont accompli dans le monde entier et chez eux.

Les citoyens du Canada ont une réputation mondiale dans toutes genres de travail. Nos scientifiques font des recherches qui aident et améliorent la vie de des millions de personnes; l'aide internationale du Canada donne à manger à des enfants dans des pays sous-développés et des programmes comme celles de "Canada World Youth" aident les fermiers du Tiers-Monde à devenir plus indépendants.

Trop souvent, les Canadiens pensent qu'après des États-Unis le Canada ne vaut rien. Dans "Bravo Canada!", il était possible de voir ce qui sépare le tout le monde. C'est pour cela que je suis fière d'être Canadienne.

(Revision)

Revisions in organization:

Revisions in the case of the composition presented below differ from revisions made by other students⁶. Unlike her classmates, this student revised her composition by reorganizing its content globally as well as attending to aspects of language use at the level of words and sentences. A combination of both types of revisions contributes to the overall effectiveness of the final text to a greater extent than the kinds of changes which were made by other students - whose final compositions remained somewhat choppy and loosely organized.

(Figure 1 about here)

Further qualitative analysis of pieces of writing generated by each UTS student throughout the course (including the course final writing examination) suggests that students progressively tended to make use of a greater range of vocabulary, they tended to use lexical items more appropriately and they used more sophisticated items. As well, students' writing over time showed fewer errors in their use of verb tenses, number, gender and person agreement, word order, prepositions and pronouns.

4. Summary

The two groups of participating students were brought together to hold conferences about social, cultural, political and literary themes which they studied in their ESL course or course in Contemporary Studies taught in French. The UTS group operated in a pedagogic environment characterized by: a) an interpretive approach to the teaching and learning of subject matter; b) an experiential approach to second language teaching and learning with little formal instruction; c) extensive writing practice and teacher feedback on language use.

The UTS-CMSL network was used as a) an audience for students' writing, b) for student interactions about subject matter, and c) for intercultural exchanges. The main roles which the teachers played were: a) facilitating the learning of subject matter by students in their respective groups; b) providing learners with opportunities for language experience and use in a broad range of situations; c) providing feedback on written texts; and d) synchronizing written exchanges between the two groups of students.

Contextual differences in the situations of the two groups acting as constraints included the fact that the CMSL group was much larger than the UTS group and that CMSL participants had more limited access to the network and less time for networking activities than their UTS counterparts. In addition, the network was an 'add-on' component for the Montreal group. The conferencing system "parti" was more effective for asynchronous interactions than for on line, real time interactions between the two groups.

Positive aspects about course implementation in the UTS context were the following:

- The course generated enthusiasm by most participating students.
- Classroom activities and preparation for networking activities provided students with extensive opportunities to use the second language in a variety of situations.
- The course made use of the network for communicative purposes.

- The study of and interactions about social, cultural, political and literary issues with speakers/writers of the target language contributed to students gaining insight into the issues covered in the course as well as insight into the culture of the target language group.
- The course helped students improve aspects of their language use.
- The course promoted collaboration within each group.

Main limitations of the experiment include:

- The course emphasized a limited range of second language use.
- The course emphasized writing practice and writing product, but minimum emphasis was placed on writing processes and the learning of writing.
- In view of technical and other implementation constraints, the course did not exploit the network's full potential for second language learning and the learning of writing in the second language.

4.1 Implications

The implications of this experiment are based on a consideration of the pilot phase of the project (Appendix A) as well as the findings of the main study. From the investigators' point of view, we were struck by the implementation needs of a project such as this. Ideally, one would want a similar degree of commitment on the part of the

twinned school as on the part of the initiating school whose administration was keen to devise and support an innovative course of this kind.

Within the initiating school, it would not necessarily have proved straightforward to recruit a teacher to take responsibility for a new type of course presenting technological as well as pedagogical challenges. As it happened, since a search was being conducted at the time when the pilot course was underway, the hiring team kept the new course in mind during the interviews.

The need for inservice to prepare for innovation in the classroom is well established, and a recent case study of the implementation of process writing in a French school documents the fact that inservice in this area cannot be conducted on a 'one-shot' basis, but must be an ongoing, and preferably a collaborative team effort (Gagné, in progress). If writing instruction using 'process' techniques is thought to be important, in-school workshops would doubtless be useful to create a critical mass of teachers working to improve students' writing. In a relatively small school like UTS, this would clearly not be confined to second language classes, but rather should cross language boundaries to involve English as well as other teachers interested in 'language across the curriculum'.

Other implementation issues include the status of the experimental course itself: the pressure on senior secondary students to accumulate OAC's rather than UTS credit courses at this level suggests that the Contemporary Studies course should be offered as an OAC. As the course was being planned (Appendix B) certain UTS departments had expressed the concern that offering subject-matter courses through the medium of a second language might jeopardize the depth and breadth of the content to be covered. This question was not a focus of the present study, and would have been difficult to

investigate since there was no parallel Contemporary Studies course in English with which comparisons could be made. Our feeling, however, is that the topics of the course were treated in considerable depth, and that an OAC in Contemporary Studies could be developed that would prove as challenging as OAC's in other areas of the curriculum. One clear implication of establishing such a course offering in French, however, is that the library holdings would have to be more extensive.

Student reactions to the pilot and the Contemporary Studies courses indicate clearly that computer networking proved motivating. The activity improved their keyboarding skills, made them more computer-literate than they had been, and provided a real audience for meaningful communication. One of the most exciting outcomes was the evident impact of the exchange on cultural awareness. Students' comments reveal clearly that their appreciation and understanding of the second culture was much enhanced by the contact through the network. In future, cultural objectives could be explicitly built into the course design. Often such objectives are most difficult to assess, but in this project, there was clear evidence of cross-cultural benefits.

Similarly, UTS student comments along with our the observations of the researchers and teacher suggest that considerable growth occurred in French speaking ability, and possibly listening and reading comprehension as well. The implication is that an explicit focus on one skill area (writing) can have a 'snowball' effect on the other skills.

In an article attached as Appendix C, Cummins (1988) explores the implications of current computer technology in conjunction with an 'interactive/experiential' pedagogical model. We are on the threshold of technology that will facilitate

economical and efficient electronic exchanges. With increased dissemination of information about technical access to electronic networks⁷ and about the linguistic, cultural and motivational benefits of written exchanges, the UTS experiment can usefully be extended to other grade levels and even other subject areas.

Notes

1. The fact that the course was a UTS credit rather than an Ontario Academic Course made it very difficult to recruit students who, at the senior secondary level, wish to accumulate as many OAC's as possible. This resulted in an undesirably low enrolment of 5 students.
2. It was not easy to locate an appropriate school in Montreal to be "twinned" with UTS. The contact was made through word-of-mouth and after several trials. The networking activity was then built into an ESL course as one component (an "add-on") by a teacher who was willing to cooperate. It was not the main focus of the course, nor was there any student evaluation explicitly associated with it.
3. This hands-on workshop demonstrating the use of the networking facilities and conferencing system "parti" was led by one of the researchers in the case of the UTS group and by the teacher's technical assistant in CMSL.
4. Students/researcher dialogues about on-going course activities at UTS were also in the target language.
5. One exception was face to face interactions between some UTS and CMSL students in the context of the UTS trip to McGill University.
6. This student had the benefit of participating in the pilot study as well, and therefore had had a significantly longer exposure to writing instruction than the others.
7. The Ministry of Education should centralize and disseminate relevant information to school boards.

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*References in the text which do not appear on this list are provided in the bibliography of Appendix A, pages 20-22.

**Innovative French as a Second Language Course Design
at the Senior Secondary Level — A Preliminary Study of
Bilingual Exchanges by Computer Network**

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Table of Contents

1. Introduction
2. Overview of the Research Project
3. Theoretical Principles Underlying the Instructional Approach Taken in the Project
4. Preliminary Study
 - 4.1. The computer network
 - 4.2. Piloting of the computer network
 - 4.2.1. Network participants
 - 4.2.2. Pilot interactions
 - 4.2.3. Evaluation of the experience by the participants
5. Concluding Remarks

1. Introduction

This paper reports on the pilot implementation of a computer network linking a group of Anglophone students learning French as a Second Language (FSL) in a secondary school in Toronto and a group of Francophone students learning English as a Second Language (ESL) in a secondary school in Montreal. After describing the context of this study, the report will concentrate on the electronic link which was established and the ways in which the communication environment was used in the context of pilot sample interactions between two groups of second language learners. The students' evaluations of the experience will also be summarized.

2. Overview of the Research Project

The study which will be the focus of this report was conducted as a preliminary step in a research project which seeks to investigate the viability of computer networking for the development of second language writing skills in the framework of an innovative FSL course for senior secondary students in a Toronto high school. Briefly, this course is designed to further develop the learners' grammatical, discourse, sociolinguistic and strategic competence in all academic FSL skills, concentrating especially on the development of academic writing expertise. Learning of language and subject matter —current sociopolitical issues in Canada — is contextualized in interactional and collaborative projects with Francophone peers, using the media of computer networking and French as the language of instruction.

This course, which has now been fully developed and which will be implemented and evaluated in the course of the research project is intended to integrate and operationalize three significant strands in recent theoretical research on second language learning and teaching which have been relatively isolated from each other to

date: communicative language teaching; second language writing theory and instruction; and computer networking for second language education.

3. Theoretical Principles Underlying the Instructional Approach Taken in the Project

Communicative language teaching is a movement in educational linguistics and pedagogy which has contributed to significant changes in the theoretical foundations of second language education over the last 15 years. Traditional theories of second language learning and teaching conceptualize language primarily in terms of an abstract system of linguistic rules and are thus aimed at developing the learners' linguistic competence. Grammatical proficiency is typically the major focus of instruction.

In contrast, theories of communicative language teaching emphasize the social, functional and communicative dimensions of language. They aim to develop the learners' communicative competence or abilities to communicate in their second language. A strong emphasis is placed on the need to offer learners an opportunity to participate in meaningful interaction with native speakers of the target language. The content of instruction is based on and responds to the learners' communicative needs.

A number of innovative pedagogical principles have followed from this communicative language teaching model (Brumfit and Johnson 1979, Widdowson 1978, Canale and Swain 1980, Johnson and Morrow 1981, Littlewood 1981, Savignon 1983, Brumfit 1984):

- The teacher's role is one of a facilitator of learning, a source of guidance, and classroom manager.

- Learners become active and responsible participants in the learning process.
- Classroom activities mirror real communication situations which learners may encounter outside the classroom.
- There is an emphasis on group work, cooperation among learners and problem solving activities.
- Fluency prevails over accuracy. Error is viewed as a natural phenomenon which is part of the learning process. Instruction focusses on discourse, sociolinguistic and strategic competence as well as grammatical competence.

Adopting a communicative model of language teaching for the purposes of this project presents at least ten advantages over the traditional models, most of which are supported by empirical research:

- 1) Learners develop abilities to communicate in the target language (Savignon 1972).
- 2) Learners can learn subject matter while learning language (Swain and Lapkin 1982, Wesche 1985).
- 3) Situations in which the second language (L2) is the vehicle of communication rather than the object of study is a feature of the

environment which enhances second language acquisition (Dulay, Burt and Krashen 1982).

- 4) Learners tend to develop less rigid ethnic stereotypes (Swain and Lapkin 1982).
- 5) Training in communicative skills gives learners opportunities to develop communication strategies for coping with situations which present difficulties.
- 6) Attention to learners' needs acts as a motivating factor.
- 7) Communicative language teaching bridges the gap between the language classroom and the "real" world.
- 8) Communicative language teaching gradually helps learners gain confidence in using the language and in seeking more opportunities to do so outside the classroom setting (Wesche 1985).
- 9) Communicative language teaching provides for the discussion and experience of sociolinguistic and sociocultural aspects of French.
- 10) Communicative language teaching allows learners to take responsibility for their own learning.

The second theoretical area to be incorporated in the proposed project is that of second language writing. The conceptions of writing which have traditionally served as the theoretical basis for writing instruction have been heavily influenced by the behaviorist learning theory and audiolingual methodologies. Writing has been primarily perceived as grammatical proficiency. Thus, second language writing instruction has mostly consisted of a rigid, programmatic sequence of carefully controlled exercises which, it is assumed, will eventually lead learners to the mastery of self-expression (Rivers 1968, 1981, Finocchiaro 1967, Paulston 1972).

Most recently, theorists have begun to question the validity of instructional approaches that are prescriptive, formulaic and overly concerned with correctness. This change in thinking was brought about under the influence of research on writing in the field of mother tongue (L1) teaching (e.g. Flower and Hayes 1984). There has been a marked shift on the part of researchers in both L1 and L2 from a focus on form of writing to a concern with the cognitive and psychological processes of producing written language.

This research into the composing process of both L1 and L2 learners stresses that contrary to traditional beliefs writing is not a habit-formed skill which develops through a linear process. Rather, writing is a complex, recursive and convoluted process of an exploratory nature (Zamel 1983; Raimes 1985). It is an active process of thought, discovery and creation of meaning. Furthermore, drawing on the work of contemporary psychologists such as Vygotsky, Bruner, Luria, Bereiter and Scardamalia, who have focussed on the unique connections between writing and learning, current writing theorists attribute a significant role to writing for the promotion of higher cognitive functions (such as analysis and synthesis). Writing is viewed as a powerful mode of

learning (e.g. Bullock 1975; Emig 1981) and as a special kind of intelligent problem solving..

Pedagogical implications of this research stress the need for processs-centred (rather than purely-product-centred) instruction. Suggested learning activities concentrate on writing content as well as form, processes of revision and editing, audience awareness, discussions of students' writing, collaborative learning and extensive writing practice.

Finally, the third area of theoretical research to enter into the proposed project is that of computer-assisted instruction in L2 and computer networking. Since the introduction of computers into classrooms, a number of researchers have concentrated on the application of this technology to second language learning. Research on the use of computers in L2 learning suggests that:

- 1) Computer assisted language learning (CALL) has been overly concerned with the technical aspects of the new technology at the expense of developing pedagogic frameworks for the use of computers (Cooke 1985).
- 2) CALL is utilizing a fairly limited range of computer uses. Typical existing programs tend to concentrate on a restricted area of language and computers are mostly exploited for drills and practice exercises (Canale et al 1984; Becker 1982; Ng and Oliver 1987).

- 3) Most current CALL programs appear to be incompatible with the contemporary model of communicative language teaching (Cooke 1985; Canale et al 1984; Wilson 1986).

Although computer networks offer technological means for facilitating the integration of computer use with a model of communicative language teaching, their potential applications to second language education are only now beginning to be explored.

Current research with computer networks is still in its infancy. (Most projects have been conducted in the U.S. and Europe). However, all present experimentation with computer writing networks for L2 learners at the elementary, secondary and university levels report positive effects on the quality of students' writing, especially on skills relating to organization, content and language use (Mehan et al 1984, Cohen and Riel 1986, Eastmen 1985, Levin et al 1984, Riel 1985, Cohen, Levin and Riel 1985, Mehan, Moll and Riel 1985).

These positive results have been attributed to several factors. To begin with, computer networks provide opportunities to L2 learners for direct interaction with peer native speakers of the target language (to whom they may not have easy access otherwise). They also provide a motivating environment for using language in authentic communicative situations. Further they allow for a functional and contextualized environment in which important writing processes (such as revising and editing) are natural parts of the activities in which the students engage. Finally, these networks cultivate an awareness of readership and audience expectations (a critical factor in writing development according to current writing theory and research).

The theoretical and pedagogical integration of the three research strands reviewed in this section makes for an innovative approach to FSL instruction which concentrates on redressing the weaknesses which the group of FSL learners in the Toronto school —like other secondary FSL students — demonstrate in their academic skills in French, especially writing (Swain and Lapkin 1986). These skills need to be fully acquired in order for students to be able to "take courses at the post-secondary level in which French is the language of instruction (i.e., understand lectures, read references, write papers and take part in class discussions" (Ministry of Ontario Curriculum Guideline for French as a Second Language).

The evaluation of the instructional approach as implemented in the proposed course will centre on measuring growth in French writing skills and assessing qualitatively the impact of the experiment on student and teachers. This will include documenting their needs, concerns, perceptions and positions throughout their participation to the computer network in the context of the innovative course. Methodological procedures for data gathering will thus include classroom observations, ongoing interviews as well as testing. Implications for FSL instruction at other grade levels and in other contexts will be fully explored.

4. Preliminary Study

The present study can be viewed as a feasibility study concentrating on the operational aspects of linking the two schools participating in the project via a computer network, though the study also aims to gather preliminary data on the perspectives of second language learners on the (potential) value of computer networking with users of the target language.

4.1. The computer network

The computer network which we succeeded in implementing takes into account a variety of considerations and constraints. It accommodates the use of microcomputers already available in the two schools, though these are not compatible with each other (approximately 30 Commodores 64 in the Toronto school and 30 Apple II+ in the Montreal school). Additional equipment required in the computer laboratory of the participating schools is limited to one telephone line and one modem. The networking facilities are suitable for users with little or no previous knowledge or experience in computer networking. It enables a class of learners and their teacher to proceed with networking activities with minimal technical support once the group has been introduced to the system and provided with resource materials. Furthermore, the computer network makes use of a conferencing system which is sufficiently flexible and sophisticated to accommodate a large range of communication options, (including simultaneous and asynchronous interactions, exchanges of brief messages and lengthy materials, pair, small group or large group interactions, as well as open and private exchanges) in accordance with the pedagogical and research goals we wish to achieve. The configuration of this computer network is presented in Figures 1 and 2.

Briefly, electronic exchanges between students in Toronto and the Montreal group are conceived to proceed as follows. Students compose their texts using Commodore 64 or Apple II+, storing these texts on disks. Learners then take their disks to the "interactive work station" — the microcomputer hooked to a modem and connected to a mainframe computer (here the OISE VAX) — and transmit their texts directly onto the PARTICIPATE conferencing system, under one of several possible headings identifying specific communication activities. Students can thus send an urgent or personal note to a Montreal peer, classmate or teacher, a contribution to a core

conference on a particular topic which figures in the course syllabus, for example "bilinguisme", a response to a small group discussion on another topic ("Petits groupes"), a finished composition, book review, interview or article to be published in the network library ("Bibliothèque") and shared with all participants, a request for technical assistance or a solution to a problem ("Problèmes et solutions"). Additional conferencing activities in the final implementation of the computer network will also include a private conference between the two participating teachers, allowing them to discuss administrative, curricular or pedagogical issues. A dialogue journal between individual learners and one of the researchers will also become part of the present communication environment. This will serve the purpose of documenting the participants' views on and reactions to the computer networking and other learning activities performed during the course.

However, one disadvantage of the network is that it does not accommodate the transmission of diacritics in French script. Although this has been a difficulty common to other projects involving the transmission of accents, possible solutions to this particular problem remain complex and costly, thus seemingly beyond the scope of this project.

4.2 Piloting of the computer network

4.2.1 Network participants

Twenty second language learners volunteered to participate in the piloting of the network. The Toronto group consisted of a mixed class of grade 11 and 12 students currently enrolled in an FSL writing course for learners who had completed their FSL Ontario Academic Course(s) but wished to further develop their French language skills. This course was taught by one of the researchers who thus acted as the facilitator during

the pilot exchanges.¹ The Montreal participants consisted of a sample of the student population selected to participate in the final implementation of the computer network in the context of an advanced ESL course at the senior secondary level. At the time when the study was conducted these students were enrolled in ESL courses at the "secondaire 4" level. The ESL teacher selected to participate in the final phase of the project acted as the coordinator of the Montreal group during the pilot interactions.

4.2.2 Pilot interactions

Sample pilot interactions were held over a three week period in April and May 1988. All participants received training in the use of the networking facilities as preparation to the pilot interactions. The two groups collaboratively chose to exchange autobiographical statements, hold a conference on the theme of bilingualism, and then explore the specific issues relating to Bill 101. Toronto learners also chose to share compositions on other self-selected topics which they sent to the network library.

All students were required to compose their texts in the target language (French for the Anglophone students and English for the Francophones). Students had options to compose their texts individually, in pairs or in groups. They were given opportunities to draft, revise, and edit their texts before sending them, though they could also send unrevised pieces of writing. Incoming and outgoing autobiographical materials and conference proceedings were printed out as they were transmitted and distributed to learners, prompting further exchanges. Student writing samples are included in Attachment 1 for illustrative purposes.

4.2.3 Evaluation of the experience by the participants

Procedures

Shortly after the electronic exchanges were completed structured interviews were held with the network participants including the ESL teacher. Students were asked to comment on such elements as the technological aspect of the networking facilities, the usefulness of the exchanges, what they liked or disliked most about the experience, problems they had encountered, and what kinds of expectations they would bring to an extended use of the network as part of a second language course. The 45 minute interviews were tape-recorded and partially transcribed.

Participating students' views and expectations

Qualitative analyses of the data reveals that the participating students perceived the experience of computer networking with users of the target language to be valuable at educational, social, cultural and personal levels. The views are summarized under these headings. The problems or concerns they identified are also included.

At the educational level

- a) all learners reported the experience of preparing for and participating in computer networking activities had marked a shift in their conception of the second language. Students perceived a shift from a view of the second language as a subject in their program of study to a view of English or French respectively as a medium of communication.
- b) All Toronto students reported that preparation and networking activities, as integrated in the framework of their FSL writing course, had assisted them in improving their writing skills in the second language and had also generated more oral interactions

with their class peers than they had initially expected. All Montreal students reported that the interactions had acted as a motivating factor for making special efforts to focus on their writing skills. Both groups of students expected that their linguistic skills would improve if they participated regularly in such exchanges over an extended period of time.

c) Most students reported having learned new information about Bill 101 through the process of interactions.

d) Toronto students suggested that the prospect of participating in networking activities had acted as a motivating factor for improving their research skills over the period of the writing course.

e) All students stressed the contributions that this experience had made to improving their skills in the use of the computer. Although most students had been trained to use microcomputers available at their respective schools in computer courses, most students said they had been apprehensive at the idea of using them in this experiment because they did not use them regularly as writing tools in their courses, including the language class. All students viewed computer literacy as an important aspect of their future lives. Toronto students found the networking facilities easy to use. The Montreal group required technical support.

f) Several Toronto students also pointed out that preparatory and networking activities had given them opportunities to improve their typing skills and expected they would continue to improve as a result of regular networking activities.

At the social level

g) Students welcomed opportunities for self-expression in the target language, which they felt they often lacked in language courses. Students enjoyed "meeting" and "making friends" with peers in the other group through discussions of issues which were relevant to them.

At the cultural level

h) Students felt that the experience had provided an opportunity to experience the L2 culture. They viewed members of the other group as cultural informants. Students also strongly believed that networking of this kind would help them understand better the other culture.

At the personal level

i) Students reported having enjoyed the experience. They said they had felt a sense of excitement and curiosity by engaging in a new learning experience as well as personal satisfaction in contributing to a cultural rapprochement.

Students' concerns

a) Students perceived a need for additional interactive work stations in their school's computer laboratory.

b) Students regretted that they were not given more time in the computer laboratory.

c) Students stressed the importance of one to one interactions at the beginning of the exchanges.

- d) Students suggested that future networking activities of this kind should be concluded with a face to face meeting or exchange trips between the two groups.
- e) Students wished that more sophisticated microcomputers (rather than Commodore 64 and Apple II+) were available in the computer laboratories of their schools for the use of this project.
- d) Most students reported that they disliked the activity of typing their texts because they found it tedious.

Participating teacher's views and expectations

The CMSL teacher's views and expectations were based on her interactions with her students and her observations of their behaviour during the computer exchanges.

- a) The teacher noted that the networking activities had acted as a motivating effect on the participants.
- b) The teacher observed positive changes in the students' perceptions of the L2 culture.
- c) The teacher reported that the experience had generated more writing from the students than she had anticipated.
- d) The teacher did not anticipate problems in integrating networking activities of this kind with other pedagogical activities in her ESL classroom. She thought that her course could accommodate the use of French by the Toronto group. She expressed

curiosity as to what the effects on her students' language skills in the mother tongue would be.

e) The teacher showed a concern for the practical aspects of managing time and space in view of the class size and the number of terminals available in the computer laboratory. She also stressed the needs for technical support in training students to use the networking facilities. Like the participating students, she recommended that such exchanges include a face to face meeting or exchange.

5. Concluding Remarks

Although we perceive the present computer network as practical, economical and most appropriate to this context, we recognize that additional interactive work stations in both schools would facilitate the process of exchanges such as those which took place in the pilot implementation of the electronic link. However, only one interactive station will be added in the Toronto school in view of the financial resources available. As a result, networking activities will need to be monitored so as to provide equal access to all participants.

Exchanges similar to those describe in this study are scheduled to be held once weekly over a four and a half month period in the next phase of the project. However, the decision has been made to allocate more time to asynchronous (delayed) communication than to simultaneous communication on the system. This decision was prompted by our observations that this mode of communication did not appear to encourage students to draft, revise and edit their texts. Due to the time constraints inherent in immediate communication, learners seemed to focus primarily on the meaning of their messages. Although they typically remarked on faulty sentence

structures or spelling errors they produced while writing, the participants seemed to adopt a "they will understand anyway" attitude whereas they usually made conscious efforts to focus on both the formal features and content of their communications during asynchronous exchanges, seeking help from peers and the instructor, dictionaries or other available resources. Thus, while it may be useful for students to engage in such "written conversations" (for example in the process of working on collaborative projects with the Montreal group), it seems reasonable to assume that students will benefit more from engaging in communication activities which promote attention to such processes as planning and revising.

Furthermore, inter-group exchanges need to be exploited not only as a communication environment but also as a learning environment. This requires systematically planned efforts on the part of the second language teacher and students to organize and integrate into the course curriculum activities which provide for different interactive roles and expand the demands made on the learners' academic skills.

Note

1. This non credit course is to be replaced by the course developed in the current project which will be offered at the grade 13 level.

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FIGURE 1
CONFIGURATION OF THE COMPUTER NETWORK "UTS/C.M-S-L"

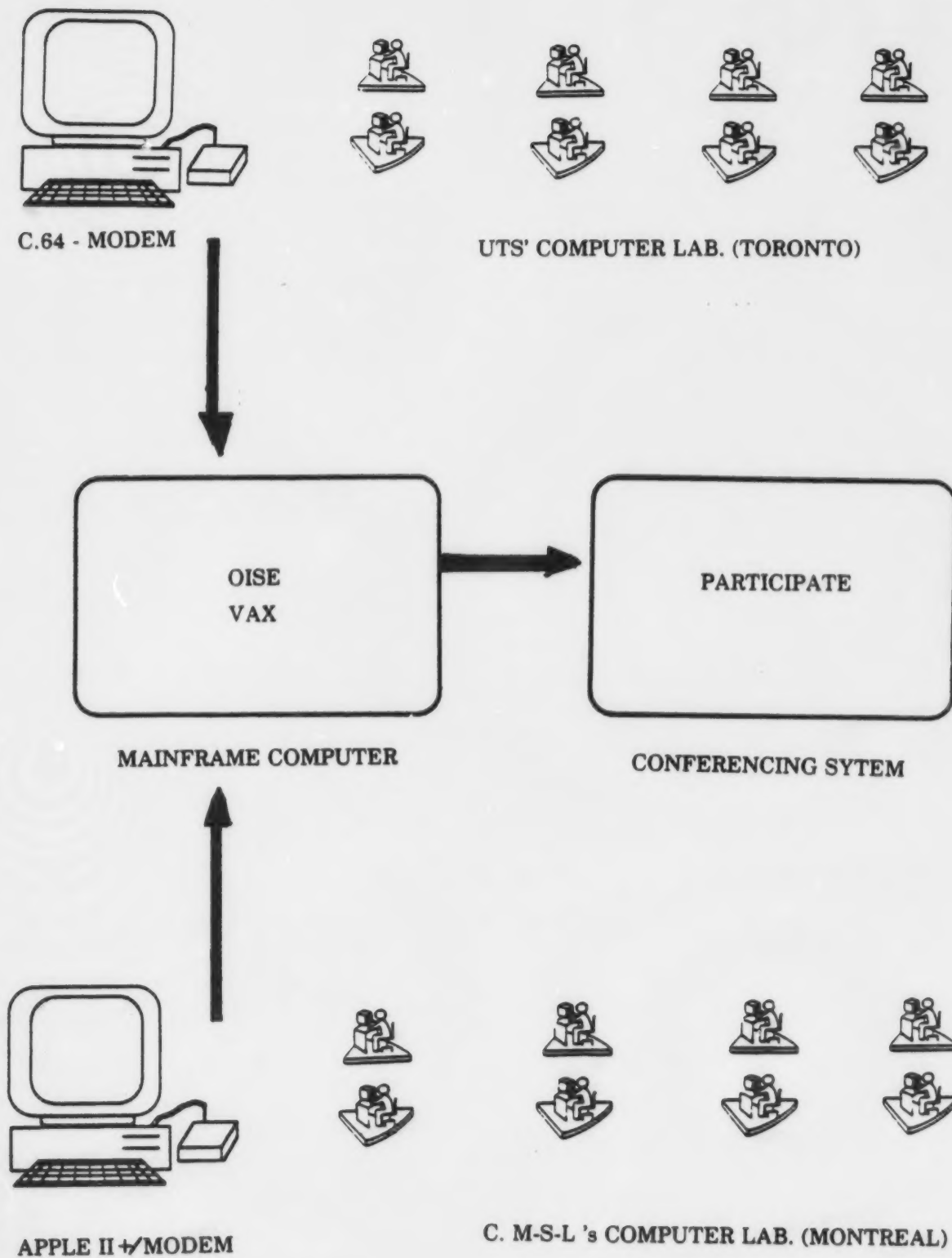
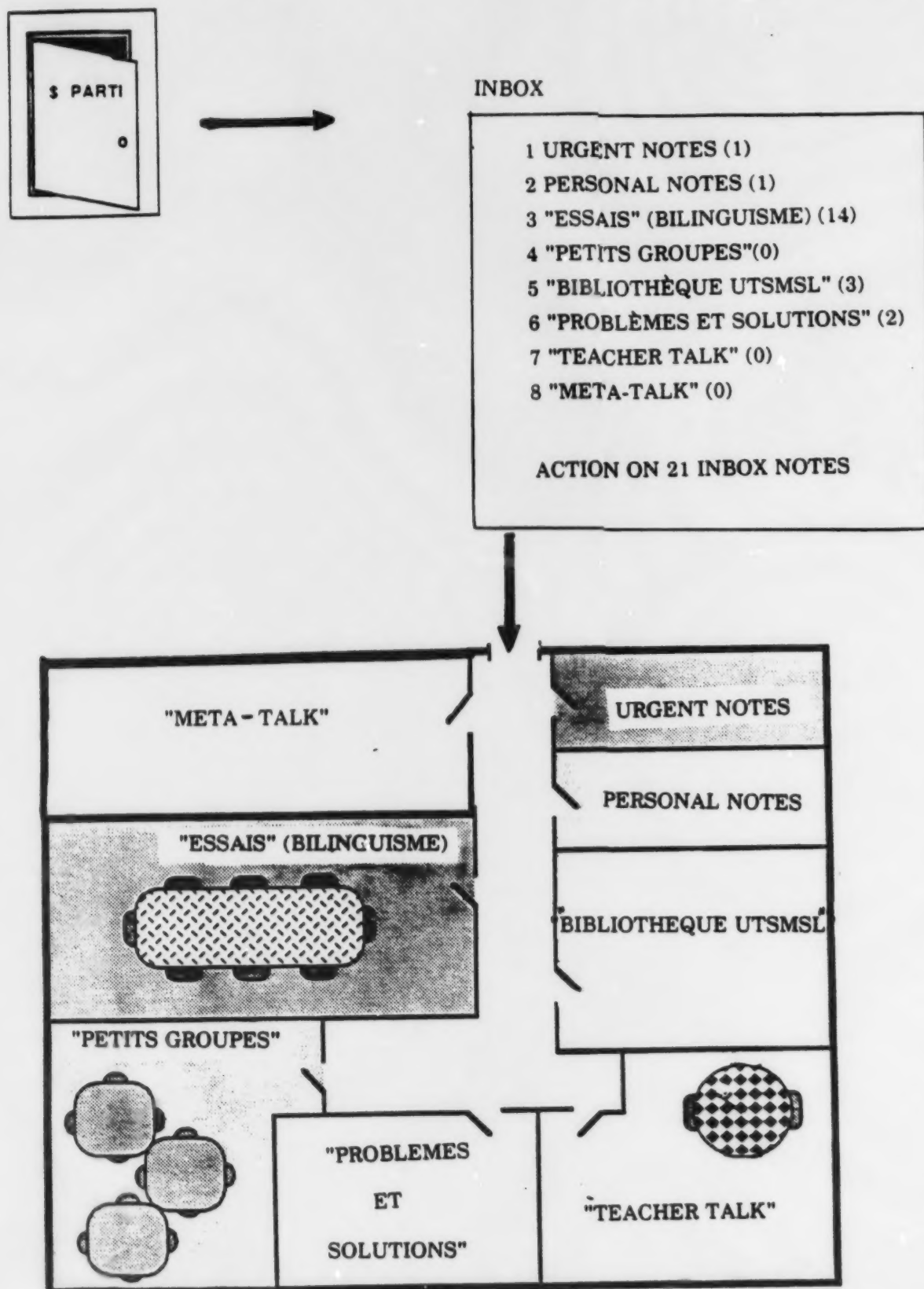


FIGURE 2
THE USE OF "PARTI" IN THE "UNIVERSITY OF TORONTO SCHOOLS -
COLLEGE MONT-SAINT-LOUIS" COMPUTER NETWORK



R.SANAOUI and S.LAPKIN 1989

THE COMPUTER NETWORK "UTS-C.M-S-L" -- STUDENTS' WRITING SAMPLES
FROM PILOT INTERACTIONS

"ESSAIS" by RAZIKA SANAOUI, Apr. 12, 1988 at 19:17 est (32 notes)

BILL 101

My name is Francoise and I'm almost 16 years old. I go to a private school in Montreal and I was asked to participate in this experiment because I took up the advanced English course next year. I learned to speak English quite well mostly just by watching american channels on television. I'm looking forward to That class because there are many special projects like this one and it really sounds like fun. There's one in particular that seems exciting: performing a radio show live. The regular class only has to tape it. We also finish the courses at the end of March instead of June like all the other classes. But until next year, let's get down to business, let's talk about Bill 101... In Quebec, the majority of the people speak French, so it's the official language in our province. But in order to protect ourselves and our language from the english majority that surrounds us in Canada, we wrote a law that states, among other things, that we have the legal right to receive services in French everywhere in the province. That means merchants must advertize in French and be able to speak French to their clients. Even though we have to preserve our language spoken by a minority of people in Canada, we also have to keep in mind that we also have to keep in mind that we also have to protect the english minority in Quebec. It is also a question of protection. I guess but it gets a little more complex when you think about the legal system in Quebec, like the people who speak English. We have a federal one and a provincial one, and they never seem to get along. In my opinion, if we were in our own country we wouldn't be a minority ourselves and we could deal more easily with the minorities. Right now, as a province, we make our own laws but the federal government can interfere if they don't agree. If we were independant, these laws wouldn't get changed by another government and we wouldn't be a minority in a country anymore. I don't know much about the matter, but this is what I understand about Bill 101. We don't know if we should change the law or not. It is a big conflict over the French language. The issue is complicated, that's why the Supreme Court is handling the case, but there again it's probably going to be a ruling in favor of the federal government and not the province of Quebec since we are a minority in this country. Even though I'm bilingual and I wouldn't mind the province to be so too, I think we have legal rights to speak French proudly in our own province even if we live in an English country.

LAW 101 -----

(or how to create a lot of controversy in a big province....)

Frankly, I don't know for you guys but, I'm for a bilingual Canada. (So ok, I'm a dreamer, sue me!) Therefore, it's about as obvious that I'm against Law 101 as much as I'm against what the gouvernement is doing to the francophones in Manitoba (or is it Saskatchewan? Who cares, they both grow ... things and have comboys anyways...) However I understand why French-speaking people might have become a bit "protective" (ok, ok, paranoid!) about their language. I mean how would feel if you were invaded by France officers tried to assimilate you or wipe you off the map because your culture is "inferior"? (That's what the British said about us when they invaded New-France.) Besides, you would be more than a bit frustrated if you went into a shopping mall, asked for service and were answered only in French. (In downtown Montral, few people can get service in French. All those sales clerks only answer you in English!)

The French must be able to get what they want in their own language. But so do the anglophones. That's why I say that French and English go together. So why not learn other's language? That wouldn't kill anybody now would it?

BILL 101

My name is Nathalie and I've been a student at Collège Mont-Saint-Louis for almost four years. What I like the most is skiing in the winter and in the summer, I go horseback riding. I also like to listen to music. I like almost every kind of music from The Beach Boys to Iron Maiden. My grades are good in French, English, history and math but they're so so in chemistry and physics. All my friends come to this school and when we go out on week-ends, we usually go to the movies or dancing. But now, let's talk about Bill 101.

We hear a lot about Bill 101 on the radio, but it's just when I read the text our teacher gave us that I really learned what Bill 101 was about. The only thing I knew about it was that the bill was created to protect the French language. I didn't know that it goes a lot deeper than that.

Right now, some people are contesting articles of the bill in court. The great majority of the people in the province are against modifying the bill. So, to tell everybody how they felt, they held a big protestation march in Montreal about two weeks ago. I don't know if the court will modify the bill anyway

TILL NEXT TIME - Nathalie

24 (of 32) JENNIFER May. 5, 1988 at 12:03 est (2018 characters)

Bonjour! Je m'appelle Jennifer et j'aime beaucoup de choses, surtout aller au camp à St Donat chaque été. Ce camp, Ouareau, est un camp bilingue. Je pourrais vous donner mes idées à propos du bilinguisme en écrivant une comparaison entre ce camp et le Canada.

Au camp, chaque cabine est supposée avoir deux filles anglophones et deux filles francophones. En réalité, on a généralement une fille complètement anglophone, une fille qui parle un peu de français, une fille bilingue, et une fille complètement francophone. Ce qui arrive c'est que la fille bilingue est aimée par tous, la fille qui essaie de parler français est aimée, mais les deux filles unilingues ne s'aiment pas.

Pourquoi? Parce qu'elles ne se parlent pas. L'une attend que l'autre essaie de parler anglais; l'autre attend que sa camarade essaie de parler français. Ça, c'est le problème avec le Canada. Au Québec, vous vous attendez à des programmes d'apprentissage du français dans les écoles du reste du Canada. Le reste du Canada s'attend à ce que vous ayez des programmes d'anglais.

La majorité ne veut pas apprendre le français et la minorité a peur de perdre sa langue. Je pense qu'il faut que tout le pays fasse l'effort d'apprendre les deux langues. Ici, à Toronto, les jeunes parlent tous un peu de français et je trouve qu'au Québec beaucoup de gens parlent anglais. Je ne crois pas que les adultes vont changer, mais nous, nous pouvons. Si tout le monde était forcé d'avoir une éducation bilingue, nous pourrions tous vivre en paix, sans des Manitobas ou des lois 101.

J'espère, Nancy, qu'un jour, quand tu viendras à Toronto des personnes feront l'effort de te parler en français. Et Gary, je ne pense pas qu'un Canada bilingue est seulement un rêve. Française, je ne pense pas que le séparatisme est la solution car la ségrégation d'une minorité n'est jamais une solution, c'est juste un autre problème. Un jour, j'espère entrer dans un magasin et entendre du français et de l'anglais.

Jennifer

Bonjour! Je m'appelle Catherine et je suis en 12eme annee. J'ai habite a Toronto pendant toute ma vie, mais j'ai voyager beaucoup au Canada et les Etats-Unis. Malgre ca, je n'ai jamais visite Montreal, sauf en avion pour une hue a Mirabeille, et pour changer de trains dans le gare. J'ai appris le Francais dans un programme d'immersion depuis l'age de cinq ans, mais hors de l'ecole il n'y a pas de chances pour moi de parler Francais. Je continue mes etudes parce que le Canada est un pays bilingue, et beaucoup d'emplois necessitent des employes bilingue partout dans le monde. Aussi, j'aimerais aller en France pour etudier plus tard. Une derniere raison est que j'ai besoins de suivre un certain nombre de cours a l'ecole, et je ne veux pas suivre le cour d'espagnol l'annee prochaine. Bon, au sujet de Bill 101. J'ai entendu a la radio une entrevue avec trois journalistes bilingue de Montreal qui parlaient du bilinguisme. Elles ont dit, et moi je pense qu'elles ont raison, qu'il est impossible de garder une langue avec une loi. Les langues appartiennent aux cultures qui les forment, et comme ca elles changent avec la societe. Les influences (en forme de radio, television, et journaux) sur la societe la change, et alors la langue et la culture changent. Aucune loi ne peu proteger une langue d'elaborer a cause de ces influences, mais je crois que c'est ca que le gouvernement de Quebec pense faire avec la Loi 101. Je crois aussi que le reste du Canada serait plus amical envers le Quebec et le Francais si les Quebecois n'etaient pas si peur de l'Anglais. Si les Francophones veulent s'assurer que le Francais reste vivant et s'etend au Canada, il faut qu'ils s'ouvrent et laisse voir aux Anglophones que les Quebecois ne se croient pas si speciale et meritent un pays pour eux-meme. Cette sorte de sentiment fait peur aux Anglais. Bien sur que ce n'est pas entierement la faute des Quebecois, mais je crois qu'il y a besoin d'une plus grande comprehension entre les Anglophone et les Francophone, et Bill 101 n'est pas une bonne facon de le faire.

* * * * * Par interet, je vous envoie un sondage sur la langue francaise qui a ete preparer pour tester la connaissance des fonctionnaires dans le gouvernement provincial. Vous pouvez envoyer vos reponses la prochaine fois. J'enverrai vos resultats et les reponses correctes. Nous essayerons de faire la meme chose avec notre groupe pour comparer. Voila les questions, et bonne chance!

* *

Sondage sur le Bilinguisme au Canada

Question 1: Quel est le pourcentage de la population du Canada qui declare parler le francais comme leur langue maternelle?

a)10% b)15% c)20% d)25% e)30%

Question 2: Quel est le pourcentage de la population de l'Ontario qui reclame le francais comme langue maternelle?

a)2.5% b)5% c)7.5% d)10% e)12.5%

Question 3: Quel est le pourcentage de la population du Quebec qui reclame l'anglais comme langue maternelle?

a)3% b)6% c)9% d)12% e)15%

Question 4: Combien de provinces au Canada sont officiellement bilingues?

Question 5: Combien de pays au monde (a part le Canada) sont bilingues francais-anglais?

MERCI. A BIENTOT!

Natalie(sans h)

NATALIE

May. 5, 1988 at 16:35 est (3274 characters)

Il est toujours interessant de voir ce que les gens pensent de nous. Eh bien, vous allez le savoir. Ayant fait un recensement des opinions de notre classe, nous pouvons vous le dire. Nous avons ecrit un questionnaire qui comprend les questions que nous avons trouvees importantes, et, sur une classe de dix-huit, douze ont repondu. Dans les pages suivantes vous pourrez voir les questions suivies d'un resume general de chaque reponse. ce qui vous donnera un apercu general des differences culturelles, educationelles, etc., d'apres nous, entre des Torontois, et vous, dans votre contexte de Montrealais, et de Quebecois. Voila donc nos resultats:

1. Etes-vous alles a Montreal?

Des douze respondants, dix y sont alles et deux n'ont pas eu le privilege de votre belle ville.

2. Selon vous, quelle est la meilleure chose a Montreal?

Nous avons eu beaucoup de reponses differentes. La plus part des gens ont repondu qu'ils preferaient: la culture francaise, les gens aimables, et le Metro. Les monuments historiques, comme les eglises, ont ete souvent mentionnees, aussi bien que les achats, les musees, les restaurants, la centreville, l'Universite McGill, l'habitation d'Expo '67, et les pancartes en francais.

3. Pensez-vous que les etudiants de Montreal travaillent plus ou moins durs que nous?

Plusiers personnes (7) n'avaient aucune idee. Trois personnes, malgre ca, pensaient que les etudiants Montrealais ne travaillent pas aussi fort que nous a notre ecole a nous, mais que ceci n'etait pas necessairement vrai pour les autres etudiants a Toronto. Deux reponses interessantes: "les etudiants a McGill ne travaillent pas aussi durs que les etudiants a l'Universite de Toronto," et, que les etudiants Montrealais "sont obliges de travailler aussi durs que nous, mais ils ne le font pas." Seulement une personne a pense que nous travaillons autant.

4. Est-ce que leur systeme d'education est meilleur ou pire que le notre?

Encore une fois la grande majorite (7) pensaient etres incapables de repondre, tandis que deux personnes ont pense que votre systeme scolaire est meilleur. Une personne a trouve que votre systeme est pire que le notre et "n'aime pas la segregation dans les ecoles a cause de la loi 101...mais c'est peut-etre une bonne chose pour preserver la culture francaise." Finalement il y a une derniere personne qui pense que les systemes sont pareils.

6. Pensez-vous que les cultures de Montreal et de Toronto sont differentes?

Notre groupe est arrive a une decision unanime que Montreal et Toronto sont tres differentes. On a trouve que Montreal et ses habitants sont plus libres. Il y a des gens qui ont pense que que la culture Europeenne a eu d'avantage d'effet sur les Montrealais que sur nous, par exemple: la frequence avec laquelle on voit des gens aux cafes l'apres-midi. Les gens de notre classe disent aussi que Montreal est plus interessant que notre ville, et qu'elle a une personnalite speciale. On trouve qu'il y a de la rivalite entre Toronto et Montreal. "Toronto est plus cosmopolitain, tandis que Montreal est un centre des Arts." Mais on trouve aussi que Montreal a des problemes - et que la politique de Montreal souffre a cause de la lute pour l'indpendence de Quebec. Tout le monde cherche a preserver la culture Montrealaise. Il y a une vie dynamique et artistique a Montreal, mais a Toronto l'emphase est placee sur les affaires. Il y a des comparaisons

entre les deux villes, comme l'existence de la rue Yonge a Toronto qui ressemble de plusieurs facons a la rue St. Catherine a Montreal. Toronto est un melange de cultures, mais il y a peut-etre trop de divisions entre les Anglophones et les Francophones a Montreal. Montreal a aussi quelque chose que Toronto n'aura jamais - l'age. Il y a a Montreal une ville nouvelle et une vieille ville, ou Toronto, au contraire, consistera toujours de colonnes de ciment.

7. Quelle est le plus grand mythe au sujet de Montreal?

A Toronto il y a quelques mythes de la vie a Montreal. Voila ceux que nous avons trouves les plus importants. Mythe 1: Montreal est totalement francais. Mythe 2: Montreal est exclusivement un centre de culture, et non pas un centre d'affaires. Mythe 3: A Montreal on mange toujours des crepes, et on fete beaucoup. Mythe 4: Il y a tout le temps des carnavals, et le Bonhomme d'hiver vient chaque annee au lieu du Pere Noel. Mythe 5: Il neige tout le temps - 365 jours de l'annee!! Mythe 6: Tout le monde a Montreal est bucheron, et les femmes restent a la maison a garder leurs enfants. Heureusement, nous savons que ce ne sont que des mythes, et on ne les prend pas au serieux!

C'est tout pour l'instant! Et maintenant, vous pouvez former votre opinion sur nos opinions sur vous, et, dans la meme capacite, votre opinion sur nous. Vous n'etes sans doute pas d'accord avec tout ce que nous avons dit, mais rappelez-vous que nous ne vous y connaissons pas, et de toute facon, ces opinions ne sont pour l'instant que des prejuges. Quand nous aurons vraiment fait votre connaissance, si ca vous interesse, nous pourrions refaire ce questionnaire.

A bientot! La classe

3 (of 7) FRANCESCA

May. 3, 1988 at 15:10 est (4020 characters)

LE VOYAGE EN RUSSIE

Le onze mars 1988, trente eleves de UTS accompagnes de deux professeurs ont quitte la ville de Toronto pour douze jours. Leur destination? La Russie.

Pleins d'opinions et d'esperances, on discutait vivement de ce qui nous attendait. Chacun de nous avait formule son idee propre au sujet de la vie en Russie, du communisme, de glasnot et de perestroika et surtout au sujet de Mikhail Gorbachev. Il n'y avait pas deux idees semblables parmi nous; on etait seulement joyeux que cette aventure russe qu'on avait attendu pendant une annee avait finalement commence.

Apres beaucoup d'heures de voyage et trois vols differents (un conseil: ne voyagez jamais avec Aeroflot), on est arrive a Moscou. La nous attendait l'experience des douanes russes qui ont demande a plusieurs etudiants dans notre groupe de s'arreter pour ouvrir leurs valises.

Pendant les onze jours suivants, on a passe beaucoup de temps en autobus et en avion: Intourist nous menait d'une attraction touristique a l'autre.

Moscou est une ville interessante. Les nouveaux edifices sont construits parmi les vieux immeubles, ce qui produit un air de melange. A cause de ses grands espaces libres, Moscou est une ville bien etendue. Il y avait des gens qui ne parlait pas anglais et qui n'avaient pas de connection avec l'industrie

touristique; on les a souvent trouves impatients et meme impolis, mais on n'a pas eu un grand probleme avec la langue, a cause de notre connaissance enorme (!) de l'alphabet cyrillique et de quelques mots de russe.

Yalta est fameuse pour etre une villegiature d'ete avec plusieurs sanatoriums et aussi pour avoir ete l'hote de la conference de 1945. Le lieu de la conference, le Palais Livadia, est bien preserve, et les habitants de Yalta sont fiers de leur role dans la paix mondiale.

Leningrad est souvent nomme "Venise du Nord" a cause de ses nombreuses rivières et de ses ponts. L'atmosphere de Leningrad est tres differente de celle de Moscou. Tous les

anciens edifices se trouvent ensemble, et, comme partout dans les villes russes qu'on a vues, ils sont peints de couleurs vives: jaune, bleu, vert et rose.

On s'est arrete pendant une nuit a Helsinki, une jolie petite ville nordique. Enfin, on nous a ramene a l'ouest, et la premiere chose que chacun de nous voulait c'etait de la nourriture de l'ouest.

Pendant les douze jours qu'on a passes en Russie, on a assiste a deux rencontres avec des etudiants russe, une fois a Moscou et une fois a Leningrad. Chaque fois, des jeunes Russes nous ont donne une presentation musicale et on nous a aussi invite a presenter quelques chansons nous-memes. Ensuite, nous avons discute de divers sujets avec eux. Au sujet de la politique russe, on etait surpris de leur liberte de parole. Quand meme, on a eu souvent l'impression que les jeunes on ete "programmes" a demander certaines questions et donner certaines reponses a nos questions. Ce n'est pas etonnant que ceux qui parlent Anglais sont en faveur de glasnost. Ils sont tous enormement curieux au sujet de l'ouest. Ils connaissent beaucoup de musique de l'ouest et ont des opinions originales au sujet de Michael Jackson et Madonna. Nous avons trouve qu'ils pensent plutot aux etats-unis quand on mentionne l'Amerique du Nord, mais les Canadiens sont plus aimes la que sont les Americains.

On a un peu parle de l'ecole et des etudes, en particulier, des differences entre leur systeme et le notre. Jusqu'a l'age de neuf ou dix ans, ils vont a l'ecole primaire, puis a l'ecole secondaire jusqu'a l'age de quatorze ans. Ils ont l'option de quitter l'ecole et de travailler. S'ils veulent poursuivre une education universitaire, les eleves on besoin de continuer leurs etudes pour se preparer aux examens d'entree a l'universite.

La Russie est bien differente du Canada et des autres pays de l'ouest. Il y avait des aspects de la vie la auxquels je m'etais attendue, et encore des autres inattendus, mais apres y avoir pense, rien n'etait trop surprenant.

Francesca

7 (of 7) CATHERINE

May. 4, 1988 at 11:18 est (1083 characters)

Cinema

Ce printemps deux films en Francais sont arrives a Toronto. "Manon des Sources" est la deuxieme partie du livre "Jean de Forette" de Marcel Pagnol.

"Manon des Sources" continue l'histoire d'un vieux village en Provence et la haine de ses habitants envers une famille de citadins qui voulaient devenir fermiers. Le pere a ete tue et sa fille Manon (jouee par Emmanuelle Beart) s'occupe d'un troupeau de chèvres dans les montagnes. elle decouvre les hommes qui ont tue son pere (Yves Montant et Daniel Auteuil) et decide de se venger contre eux. Elle a l'intention de tarir la source dont le village depend pour l'eau.

Le deroulement de l'histoire est lent, mais on ne s'ennuie pas. Le directeur, Claude Berri, depeint d'une facon tres precise la vie dans un petit village. Les acteurs, surtout Yves Montant dans son personnage d'un vieil homme, sont convaincants et sympatiques, malgre les bruits de chevre que fait toujours Manon.

"Manon des Sources" est un film exceptionnel et il vaut bien la peine de le voir (Avec sous-titres au Cumberland Four)

Catherine

Appendix B

Final Report

Innovative FSL Course Design at the Senior Secondary Level

**Sharon Lapkin and Razika Sanaoui
Modern Language Centre
Ontario Institute for Studies in Education**

November 1987

Innovative FSL Course Design at the Senior Secondary Level

The substance of the final report for this project takes the form of a 'transfer grant' or internal proposal (attached) submitted to OISE in October 1987. Since that time, the proposal has been made available to UTS personnel. We understand that their discussions of the implementation of the proposed innovative course have centred on three main issues:

1. Which OAC offered by UTS best lends itself to a computer writing network approach?
2. Will the use of French as a medium of instruction and communication among participating students affect achievement levels in the OAC?
3. Can the proposed course design accommodate students with differing levels of proficiency in French (especially post-OAC Core French students)?

The geography department currently offers an OAC in World Issues which would indeed lend itself to our purposes. Issues such as pollution, world hunger, the optimal use of natural resources, are ideal for fostering written communication between the anglophone student body at UTS and their francophone peers in Montreal.

There is a concern that the requirement that the students function in their second language will, in some sense, 'hold them back', preventing them from fully exploring the breadth and depth of such world issues. If the entire course content were to be covered in French, the students' weaker language, this might adversely affect the final course grade. However, as outlined in the project timetable of the attached proposal, the students will spend one term conducting all course work in French and instruction will revert to English after Christmas. This plan is intended to appeal to the twinned Montreal Francophone students who will likely wish to improve their academic writing skills in English. It allows both anglophone and francophone participants to cover much

of the course content in their stronger language and provides an effective means of improving their second language skills.

When the matter of developing an innovative course in FSL and UTS was first discussed with Modern Language Centre staff, we were given to understand that the course would serve the needs of a select group of students who had advanced FSL skills, in some cases students arriving at UTS from immersion or extended programs. It now appears desirable to broaden the ability range of participating students (without increasing their numbers) to include students with a background in core French. We are confident that the proposed course can be adapted to a wider ability range, with each student working at his/her level of proficiency.

At the time of writing, internal OISE (transfer grant) funding has been awarded. The start date is 1 May 1988 and the duration, twelve months. An appeal is being made to the Executive Committee of the Joint Council on Education to reconsider its decision not to provide funds for the critical preparatory phase of the project, January through April 1988. Details are provided in Attachment 1.

Meetings will take place between UTS staff and MLC researchers between now and the new year to begin planning the curriculum of the proposed course. Razika Sanaoui, graduate assistant on the project will also provide some instruction to the group of students involved in the pilot study from January on.



The Ontario Institute for Studies in Education

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APPENDIX A

Modern Language Centre

July 3, 1987

Mr. Bill Warden
Principal
University of Toronto Schools
Faculty of Education
University of Toronto

Dear Mr. Warden:

Further to our recent meetings and discussions, this is to confirm our agreement to prepare a proposal for an innovative FSL course to meet the needs of a group of senior UTS students.

You will provide the sum of \$2,500 to the Ontario Institute for Studies in Education for proposal preparation. Razika Sanaoui and I will prepare a proposal under the title "Innovative FSL Course Design at the Senior Secondary Level" and submit it by 15 November 1987. The attached memorandum to Linda Newton outlines the nature of the proposal (and her response indicates that further funds may be forthcoming).

Please indicate your acceptance of the terms of the agreement as outlined in this letter and its attachments by signing and returning to me the enclosed copy of the letter. The first payment of \$1,000 is due upon signing the letter, with the balance of \$1,500 to be paid upon submission of the final report (i.e. the full proposal) on or before 15 November 1987.

Razika and I are looking forward to working on this exciting project with you.

Yours sincerely,

Sharon Lapkin
Associate Professor
Modern Language Centre

SL/JH
Encs.

cc: A. Hildyard, Assistant Director
Field Services & Research

B. Burnaby, Executive Head
Sponsored Research

M. Swain, Head
Modern Language Centre



The Ontario Institute for Studies in Education

252 Bloor Street West, Toronto, Ontario M5S 1V6 Tel. 923-6641

Modern Language Centre

November 30, 1987

MEMORANDUM

To: Bill Warden, Principal
University of Toronto Schools

From: Sharon Lapkin and Razika Sanaoui
Modern Language Centre

Re: Ongoing discussions of the new FSL/World Issues
course offering at the OAC level

I've attached a copy of Linda Newton's memo confirming the JCE award of \$4,640 for our joint project. As we noted at our meeting at UTS last week, the proposal did not emphasize the need for a rich resource collection in the library to support the new course. After meeting with Tom Boucher on December 3rd we hope that he can explore existing resources in Toronto (The Toronto French School, OISE, the public library, Étienne Brulé) and begin to build up the collection. Perhaps he will also be able to estimate the cost so that you will be able to allocate funds accordingly.

We should say that, even if this need had been detailed more explicitly in the proposal, we would not have been able to request funds for this purpose.

SL:jh

FROM THE INNER CITY TO THE GLOBAL VILLAGE: THE MICROCOMPUTER AS A CATALYST FOR COLLABORATIVE LEARNING AND CULTURAL INTERCHANGE

Jim Cummins

*Ontario Institute for Studies in Education, 252 Bloor Street W.,
Toronto, Canada M5S 1V6*

Abstract The role of the microcomputer in the language classroom is largely determined by the pedagogical model it evokes, which up to now, unfortunately, has generally been the 'information transmission' model. Under the alternative 'interactive/experiential' model, the microcomputer has the potential for genuinely communicative language education, using international communications networks with facilities for word processing and document transfer. 'Writing on the computer means using the machine as a pencil, eraser, typewriter, printer, scissors, paste, copier, filing cabinet, memo pad, and post office. Thus the computer is a communications channel as well as a writing tool' (Daiute, 1985). The paper lists some existing networks and illustrates, in three examples, how they can be used for communicative language teaching and literacy development.

"With the computer as the instrument, writing is more like talking. Writers interact with the computer instrument, while the pen and the typewriter are static tools. The computer enhances the communication functions of writing not only because it interacts with the writers but also because it offers a channel for writers to communicate with one another and because it can carry out a variety of production activities. Writing on the computer means using the machine as a pencil, eraser, typewriter, printer, scissors, paste, copier, filing cabinet, memo pad, and post office. Thus, the computer is a communication channel as well as a writing tool."
(Daiute, 1985: xiv)

Introduction

Much has been written about the technological revolution that is sweeping most aspects of modern life, including education. It is clear that the generation of students currently in school will require knowledge and skills related to the uses of technology far beyond anything achieved by their parents. However, they will

also be faced increasingly with critical social issues related to the appropriate uses of the new technology. The challenge for our educational system is not only to provide children from all social and ethnic groups with sufficient and equal access to computers and other technological advances but also to provide them with opportunities to develop the critical thinking skills and creativity to control the technology rather than being controlled by it.

Research conducted during the past five years in the United States and Canada (see e.g. Canale *et al.*, 1984; U.S. Congress Office of Technology Assessment, 1987, for reviews) on the ways that computers are being used educationally does not engender confidence that schools are meeting this challenge. Certainly an increasing number of computers are being placed in schools; however, these computers are predominantly used for drill and practice activities requiring only relatively low level cognitive skills of rote memory and application (Becker, 1982; Center for Social Organization of Schools, 1983); in addition, female students and those from low income and ethnic minorities tend not to have the same access to computers as do their male, middle-income, non-minority counterparts; and when minority groups or students with special learning difficulties do get access they are more likely to be assigned to drill and practice rather than to problem-solving activities (Mehan *et al.*, 1986). The paper makes two major points. Firstly, the question about how computers should be used in schools and whether their impact is likely to be positive or negative is not, in reality, a question about computers; it is a question about educational philosophy and about the psychology of learning and teaching. All educational software incorporates assumptions about how children learn best and about appropriate ways of teaching children. Critical examination of the underlying pedagogical model is a prerequisite for the evaluation of software and appropriate use of microcomputer hardware.

The second point is that when microcomputers are applied within an appropriate pedagogical framework, they have the potential to radically improve the quality of education children receive. Specifically, the computer has the potential to make the 'global village' a reality for students by allowing them to interact directly with other students around the world. In other words, when used appropriately, the computer has enormous potential for cultural interchange and reinforcement; by interacting through writing with their peers in different parts of the world, students simultaneously explore the values and history of other cultures and, in the process, discover what is unique about their own. Enhancement of basic language and literacy skills are important by-products of their interaction.

Transmission versus Interactive/Experiential Models of Pedagogy

The predominant use of computers for reinforcing skills and knowledge reflects an underlying educational philosophy which has been termed a 'transmission' model of teaching (Barnes, 1976). The basic premise of this model is that the teacher's task is to impart knowledge or skills that s/he possesses to students who do not yet have these skills. This implies that the teacher initiates and controls

the interaction, constantly orienting it towards the achievement of instructional objectives. For example, in first and second language programs that stress pattern repetition, the teacher presents the materials, models the language patterns, asks questions, and provides feedback to students about the correctness of their response. Both in the case of regular curriculum development and educational software development, the transmission model emphasises analysis of academic task demands, establishment of sequential learning objectives based on this task analysis, and 'direct instruction' of individual task components, proceeding from 'simpler' lower level subskills to more complex integrations of these subskills.

While transmission of information is clearly appropriate within our educational systems, accessing and evaluating information are equally and perhaps more important in view of the information explosion and the critical social issues that our children's generation will be required to resolve (e.g. issues related to genetic engineering, pollution, nuclear waste disposal, etc). Information is increasing at such a rate that nobody (student or adult) is capable of absorbing and remembering more than a fraction of potentially relevant knowledge; furthermore, the information presented in textbooks or computer courseware is likely to be out of date by the time students master it. Our global future will depend more on our children's ability to critically analyse situations and collaborate with others (both locally and in distant locations) in creatively solving problems. These critical thinking skills require discussion, interaction, and negotiation between teachers and students rather than solitary work at a computer. In a broader context, this is the point that has been made by those who stress that communication is a form of negotiation (Sixt, 1985).

If a transmission approach to pedagogy is not appropriate for the future needs of society, to what extent might the classroom computer act as a catalyst for a fundamentally different approach to education, one where the emphasis is on interpretation and use of information for collaborative problem-solving? Rather than being used to 'program' the student more effectively, might the computer be used as a tool to dramatically *increase* social interaction and amplify rather than constrict students' experiences?

Such uses of the computer would fall within what has been termed an interactive/experiential approach to pedagogy (see Barnes, 1976; Cummins, 1984; Wells, 1986 for discussion of similar notions). The basic theoretical premise underlying interactive/experiential approaches to pedagogy (and computer use) is that learning is an active process of constructing cognitive schemata through the integration of previous and new experiences; this process is strongly enhanced through social interaction. Genuine understanding is seen as involving active discovery, and the development of higher levels of cognitive and literacy skills requires considerably more active and intrinsically-motivated involvement on the part of the student than is implied by the transmission model.

A central tenet of an interactive/experiential approach to pedagogy is that 'talking and writing are means to learning' (Bullock Report, HMSO, 1975: 50). Its major characteristics in comparison to a transmission model are as follows:

1. genuine dialogue between student and teacher in both oral and written modalities;

2. guidance and facilitation rather than control of student learning by the teacher;
3. encouragement of student-student talk in a collaborative learning context;
4. encouragement of meaningful language use by students rather than a focus only on correctness of surface forms;
5. conscious integration of language use and development with all curricular content rather than teaching language and other content as isolated subjects;
6. a focus on developing higher level cognitive skills rather than factual recall;
7. task presentation that generates intrinsic rather than extrinsic motivation.

In this interactionist view children are seen as explorers of meaning, as critical and creative thinkers who have contributions to make both in the classroom and in the world beyond. The emphasis in language and literacy teaching is on enriching the child through literature and on helping the child become a creator of literature. This interactionist view of children's learning is consistent with Piagetian views which stress action on the environment as crucial for the development of cognitive operations and with Vygotsky's theory which emphasises social interaction as the matrix within which higher level thought processes develop. Such views, however, are not much in evidence in our schools. The major exception is in the education of 'gifted' children, who are seen as active, inquiring, involved, individuals who thrive on self-directed problem-solving and learning which is not provided in regular classrooms. Hence these students require an interactionist pedagogy. The implication is that transmission pedagogy suffices for the majority, i.e. the 'non-gifted'.

Clearly, very different applications of microcomputers are likely to result from each of these two pedagogical models. The transmission model is likely to give rise to more efficient procedures of task presentation and sequencing that can be individualised according to children's current level of knowledge of the subject matter. There is evidence, in fact, that the computer is more efficient at transmission of facts and lower-level skills than instruction that is not computer-mediated (U.S. Congress Office of Technology Assessment, 1987). However, there is virtually no data on the issue of cost-effectiveness with the result that we cannot say, for example, whether the expenditure of \$2,000 for a computer is justified by the somewhat increased efficiency of transmission given the fact that a ditto sheet costs only 25 cents.

In contrast to the transmission model emphasis on the computer as a tutor (Taylor, 1980), the interactive/experiential model emphasises the computer as a tool that can enhance a variety of active learning activities, but particularly written communication.

In order to understand the potential role of the microcomputer in promoting creative writing and cultural interchange, it is necessary to consider recent developments in our understanding of how writing is acquired and how it can best be encouraged in the classroom.

Recent Developments in the Teaching of Writing

The extent to which writing activities had declined in North American schools was forcefully brought home to educators with the publication of Donald Graves' (1978) study entitled 'Balance the Basics. Let Them Write'. Graves documented the fact that writing received minimal attention in comparison to reading and most of the writing that students did carry out was copying. Feedback that students received on their writing tended to focus on the correctness of surface forms (e.g. grammar and spelling). This preoccupation with correctness of surface forms persisted despite considerable evidence that correction of students' writing errors and explicit teaching of grammar were not particularly effective. For example, Elley (1981: 12) summarises the findings of his extensive longitudinal study on the teaching of grammar as follows:

Pupils who had no formal grammar lessons for three years were writing just as clearly, fluently and correctly as those who had studied much grammar, the only apparent difference being that the pupils who hadn't studied grammar enjoyed English more ... The research evidence overwhelmingly shows that increasing the amount of analytic study of language has no positive effect on pupils' ability to read or write.

Many teachers operating from within a transmission model have difficulty in accepting that 'errors' in grammar or spelling should not necessarily be immediately corrected, despite the evidence from both first and second language acquisition that explicit error correction is ineffective. The analogy with spoken language acquisition helps to explain the function of developmental 'errors' in the acquisition of written competence. In drawing this analogy, Temple *et al.* (1982), for example, point out that the two processes are similar in that children normally take a great deal of initiative in learning both to talk and to write and for both processes to occur, children must be surrounded by language used in meaningful ways. They go on to note that

Children learn to talk by formulating tentative rules about the way language works, trying them out, and gradually revising them. At first, they make many mistakes in speech, but they gradually correct them. In writing we see errors of letter formation, spelling, and composition occurring as children make hypotheses about the rules that govern the writing system; errors give way to other errors before they arrive at correct forms (1982: 9).

In other words, if children are exposed to a wide variety of written language and if they are allowed to continue to express themselves in writing, then errors will gradually approximate adult usage without explicit correction.

Correction, in fact, can have negative consequences for writing development in much the same way as for spoken language acquisition. As expressed by

Smith (1983: 138):

Children do not learn from being corrected but from wanting to do things the right way. Most of the immense labor teachers put into correcting their students' work is wasted; it is ignored. If it is not ignored, then it may have a negative effect, with children avoiding the words they fear they cannot spell or pronounce correctly. They do not become better spellers or speakers by writing or talking less. Correction is useful, and it is only paid serious attention to, when the student wants it and would indeed be offended if it were not given.

In conclusion, children acquire writing skills by engaging in writing activities that are creative and intrinsically interesting. Formal skills are gradually acquired in the context both of continued reading (Smith, 1982) and of projects to which children are actively committed. As Smith points out, children do not want 'spelling mistakes in the poster they put on the wall, the story they are circulating, or the letter they will mail' (1983: 138). Rather than attempting to control this process, the teacher's roles include being a guide, facilitator, and most important, communication partner. Essentially, teachers organise the classroom in such a way that children's active involvement is maximised in projects to which the children themselves are committed.

Graves' (1983) work has begun to bring about a major change in the way writing is taught in North American schools. The change is essentially one from a transmission approach to one that focusses on encouraging children to express and share their experiences in the classroom through both talking and writing. The 'process' writing approach that Graves has advocated emphasises writing as a meaningful communicative activity in which there is a real purpose (e.g. publication of a book within the classroom), a genuine audience (e.g. peers, teachers, parents), and support systems to assist children work through the editing of successive drafts.

This section has outlined an approach to the teaching of writing that derives from principles of an interactive/experiential model of pedagogy. The micro-computer is clearly not an essential part of this approach. However, the computer has tremendous potential to enhance this process by increasing the audience for students' writing and by facilitating the editing and production process. The research evidence also indicates that, in addition to providing possibilities for international communication, microcomputers can increase the immediate social interaction within the classroom.

The Microcomputer as a Tool for Social Interaction and Cultural Exchange

A number of investigators have stressed that the computer encourages a positive form of social interaction and collaboration among students. Canale *et al.* (1984: 7), for example, conclude

What stands out in all these cases is the social nature of computer use. Perhaps it is one of the virtues of necessity, but the scarcity of hardware brings with it what all teachers we have observed generally agree is a positive benefit — authentic interaction among the students as they negotiate both for access to the machines and while using them.

Mehan *et al.* (1984: 516) have similarly stressed that 'while the microcomputer itself cannot transform unskilled writers into skilled ones, it does present a medium that makes a new social organization for reading and writing possible'. They attribute the positive effects they observed on students' writing to this social organisation:

The presence of this 'other' during the writing process helps students generate ideas and gives immediate responses to the written text. Students frequently challenge one another's sentences as 'not making any sense' or correct the spelling of a word as it was typed. Less frequently, but more important for the writing process, students discuss whether two sentences should be conjoined, how run-on sentences should be divided, or how to substitute for overused words (pp. 517-18).

It appears clear from these studies that the microcomputer has the potential to reorient instruction from transmission towards interactional classroom structures. From the perspective of language learning theory, the presence of both immediate and distant audiences is especially significant in students' use of computers for writing. Swain & Wong Fillmore (1984) recently proposed a synthesis of the views of leading second language acquisition researchers whom they interviewed in the form of an 'interactionist theory' whose major proposition is that 'interaction between learner and target language users is the major causal variable in second language acquisition' (p. 18).

The potential of microcomputers to provide immediate and direct access to an international audience clearly has significant implications for language and literacy development as well as for cultural exchange and reinforcement. The technology exists to send written documents around the world in a matter of seconds and even to have written 'conversations' with individuals in distant countries.

A significant innovation in recent years has been the institution of computer writing networks through which classes of students create newsletters, books, and other forms of information exchange that can be shared with other classes tied into the same network. Some of these experiences are briefly described in the next section.

Computer Networking: Three Examples

During the past two years, several networking projects have been implemented in school systems in the United States, Britain, and Canada. For example, in the United States, schools in San Diego have been linked with schools in Mexico,

Hawaii, Alaska, and Japan (Mehan *et al.*, 1986) using English as the major language of communication. A related project with Spanish-English bilingual students entitled 'De Orilla a Orilla' (From Shore to Shore) links students in Puerto Rico, Connecticut, San Diego, and Tijuana (Mexico) on a daily basis. In addition to exchange of newsletters and stories created on the computer, students in some classes have exchanged videotapes which they have made of their communities (Sayers, 1986). In Britain, seven schools in the southwest of the country have carried out joint science projects with schools in Tasmania, with whom they have had daily contact through a computer network. The RAPPI system in Canada, supported by the Department of Communications, has linked 45 schools across Canada with about 35 schools in France, Britain and Italy. The system has operated through the mainframe computer at the University of British Columbia. In addition, during the past six months, the National Heritage Language Resource Unit (NHLRU) of the Ontario Institute for Studies in Education (OISE) has been involved in a co-operative project with IBM Canada exploring options and applications of computer networking for schools. Students from Portuguese backgrounds in Toronto have sent through the BITNET computer network newsletters (written in students' first language and English) to Spanish-English bilingual students in Tucson Arizona. Observations of teachers and researchers suggested that the exchange appeared to stimulate students' interest in and awareness of language as they explored the similarities between Portuguese and Spanish (personal communication, Luis Moll).

The technology for networking is readily available. Commercial networking and database-access systems (e.g. Compuserve, The Source, iNet (in Canada)) provide efficient communication networks, although they can prove expensive. Subsidised networks such as the TTNS system in Britain and RAPPI in Canada overcome the problem of expense but may lack stability due to the need for external subsidy; highly promising are private Bulletin Board Systems (BBS) combined with E-mail programs. The Orillas project in the U.S. utilises such a system for Apple II computers while the OPUS BBS combined with the SEAdog E-mail program is beginning to be used for educational purposes with MS-DOS machines in Canada. Since these systems avoid communication through mainframe computers, it is possible to use relatively powerful specialised software between compatible micros that preserves particular formats, graphics, and diacritics (accents).

The initial experiences of the projects mentioned have been encouraging in that they demonstrate that computer networking among schools is feasible both from a financial and operational point of view. It is also clear that considerable enthusiasm is generated among both students and teachers for the cross-cultural exchange, and teachers report that students are motivated to write much more than previously. Some future directions for expanding the potential of computer networking are outlined in the following three hypothetical examples.

Example 1. 'The basics': Reading and writing

A consortium of grade 3 classes from 5 school districts in different provinces choose an 'author of the month'. During the month all children, working in

groups, read this author's books and discuss them in light of their own experiences and feelings. They also react critically to the stories (e.g. what other ways might the author have ended the story? Why does she or he make character X so nasty? etc) and write stories themselves based on some of the ideas (or on the style) of the author. Peer conferencing would be used in the editing of these stories. Within classes, each group enters the fruits of its discussion and writing into the computer, prints it out and shares it with other groups. Several times a week the class may participate in a computer conference with the other classes who are reading the same material. Thus, they will see how other children in different parts of Canada (or outside Canada) are reacting to the same stories they have read. In addition, the author himself or herself, participates in this network (possibly twice a week), reads what the children are discussing in relation to his/her books, what questions they have generated, and responds to comments that they have made.

The result is that the children are in direct communication not only with children of their own age in distant locations but also with the author whose books they are reading. It is clear that this can help them gain tremendous insight into the process through which stories are created and they can begin to apply this insight to their own writing. Students essentially will have become apprentices in literacy.

Publishers might also get involved in this type of project through subsidising purchase of books by schools or parents or by formally publishing the best stories that students in the network created during the course of the year.

Example 2. Science

A network of several grade 7 classes undertakes a series of joint science projects that relate directly to issues that are of current concern globally and in all of the specific sites (e.g. environmental pollution, global politics, nuclear contamination, etc). For example, they might research pollution of maritime or lakewater life in the different settings. This would involve first, library/database research on types, causes, and effects of such pollution, with particular attention to data from the local area (e.g. articles from local newspapers and magazines [possibly using on-line database searching services, or the Groeller Encyclopedia now available on Compact Disk ROM], input from local university biology departments, etc); the results of this research could be shared between the different groups. The second phase would involve collaboratively (across groups and teachers) designing a project to collect data from the local area (e.g. sampling and analysing water samples, fish caught locally, etc). The final phase would involve publishing a report (e.g. for a local or school newspaper) which describes the procedures and results of the projects in the different locations.

As in the previous scenario, students are using language actively for clarifying and generating meaning. The project clearly incorporates the principle of 'language across the curriculum' in that oral and written language development are integrated with both science and social studies.

Several variations of this type of project can be implemented. For example, as in the previous scenario, an expert facilitator might join the computer conferen-

ces in order to provide additional guidance and react to students' work. Also, all classes in the network might subscribe to magazines such as National Geographic or the Greenpeace monthly magazine which contain considerable information regarding the social consequences of scientific advances. Discussion of this material both within and across classes will clearly promote reading and writing skills, as well as science knowledge and critical awareness of current social studies issues. Once again, the interaction in the context of a shared activity is the fuel which promotes cognitive and academic progress.

Example 3. Second language/culture learning

As mentioned above, theorists (e.g. Swain & Wong Fillmore, 1984) are agreed that interaction is fundamental to second language acquisition. Computer networks linking students in different countries (e.g. Canada and France) or within countries (Ontario and Quebec) can stimulate direct interaction in the target language through exchange of creative writing (e.g. newsletters, books of stories, science projects, etc). Thus, Ontario students in French immersion programs might exchange such material (in English and/or French) with francophone students in Quebec who are learning English, or Portuguese-background students in Toronto and Winnipeg might communicate with Portuguese-background students in the New England area or in the Azores.

The type of activity that has taken place in the Orillas project (Sayers, 1986) illustrates the potential of networking for second (and first) language and literacy development. Students go through the process of collaborating with each other and with their teachers in developing newsletters that report/comment on events that are of interest to the students and that also publish students' creative writing. These newsletters are then exchanged among classes in the network. At this point, students undertake the task of publishing for a wider audience (e.g. the entire school) an international newsletter with what they consider the best/most interesting writing in the newsletters produced by students in the different countries. This involves students working in small groups, with each group assigned to edit the different sections of the international newsletter. For example, the group editing the articles in the fiction section will read and discuss the various articles that have appeared in the individual newsletters, decide which ones are most interesting, and what editing changes may be required prior to publication in the international newsletter. A similar process will go on for the sports section, current events, etc. In this process, the students are finding out what makes a good piece of writing, why one story is more interesting than another, and how it might be improved. They are also likely to be dramatically improving their second language skills as well as overall literacy skills.

Major Potentials of Computer Networking

In the context of the interactionist pedagogy outlined above the classroom microcomputer has the potential to make an important contribution to the following educational domains in the years ahead.

Language learning/maintenance

As outlined above, the computer network is capable of supplying the one essential ingredient that is often lacking in second language classrooms, namely sufficient communicative interaction with speakers of (or text in) the target language. It is also capable of encouraging minority students to continue to develop literacy skills in their mother tongues.

Literacy development

The effectiveness of 'process' approaches to writing, popularised by Graves, in which students actively generate their own creative writing and publish it for real audiences is seldom questioned. However, it requires a change of orientation among teachers from a transmission to an interactive/experiential mode of teaching. In other words, teachers must be prepared to acknowledge that active student use of language (both talking and writing) are important means to learning. Many teachers (in both regular and second language classrooms) find it difficult to reorient their teaching from an emphasis on transmission of knowledge and skills to one where the generation and exploration of ideas through dialogue and interaction are encouraged. The incentive provided by international communication is likely to encourage a greater number of teachers to redefine their teaching roles and allow students more opportunities to develop their literacy skills through writing. Clearly, the reading and editing for publication of other students' writing from around the world will also contribute to literacy skills development.

Cultural exchange and reinforcement

In an era where our images of other cultures and nations are considerably influenced by television-reinforced stereotypes, the educational relevance of establishing a system for genuine communication and real cultural exchange is obvious. Within Canada, for example, few would dispute the desirability of greater possibilities for interchange between French-speaking students in Quebec and English-speaking (or French-speaking) students in other parts of Canada. A significant increase in cross-cultural understanding and sensitivity is likely to result from a writing exchange made possible by the computer network.

Artistic expression

Newer generations of computer programs permit easy integration of text and graphics. It is thus possible for students to illustrate their stories on the computer and transmit the illustrations as well as the text.

Computer literacy

As children use the computer and see its possibilities they are likely to want to explore other applications of computers to their lives. Among older students, programming applications should be encouraged and, once again, international exchange of programs is likely to provide considerable incentive.

International educational co-operation

The computer connections established between classes of students will also allow their teachers to communicate with each other and will encourage cross-national contact and co-operation in a variety of other educational areas. For example, student exchanges where students spend periods of time in other countries are likely to be encouraged by the writing connection. The impact of such exchanges is likely to increase if followed or preceded by a computer writing exchange.

Conclusion

We are at a cross-roads with respect to the ways computers will be used in schools. Many lie unused or are used for trivial purposes not because teachers do not understand the technical aspects but because the underlying pedagogical issues have not been resolved. If a teacher has only one computer in her class and is using a transmission approach to teaching, then the computer cannot achieve very much since only one student can be 'programmed' at a time. However, if that computer is used within an interactive approach to pedagogy, it can dramatically enhance the learning experiences of all the children in the classroom by acting as a catalyst for co-operative learning, process writing, critical literacy and discovery approaches to science. In short, rather than dehumanising education, as some critics fear, the microcomputer has the potential to greatly enhance the educational experience of both teachers and students by putting the inner-city classroom in touch with the global village.

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